From:	Michael Parris
To:	zzMSHA-Standards - Comments to Fed Reg Group
Subject:	RIN 1219-AB36 / Docket No. MSHA-2023-0001
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August 19, 2022

Hon. Christopher J. Williamson
Assistant Secretary of Labor for Mine Safety and Health
Mine Safety and Health Administration
U.S. Department of Labor
201 12th Street South, Suite 401
Arlington, VA 22202-5450

Re: Docket No. MSHA-2023-0001, RIN: 1219-AB36, "Lowering Miners' Exposure to Respirable Crystalline Silica and Improving Respiratory Protection"

Dear Assistant Secretary Williamson,

I appreciate the opportunity to submit comments to the public record in the above referenced rulemaking docket. In the past twenty years, I have come to respect and admire miners and the truly remarkable work that they do. My comments are motivated by that respect. I believe that this proposed rule is an important step toward achieving that goal.

MSHA has done a very good job of harmonizing the standards governing crystalline silica exposure, monitoring and remediation with similar standards governing general industry by OSHA. It is good that United States workers are assured the same enforced levels of exposure, regardless of their industry or job position. Nevertheless, there are opportunities to improve upon the standards that MSHA is presenting in the proposed rulemaking.

Until real-time monitoring of respirable silica is developed and approved for use in mines, MSHA needs to include an upper exposure limit in the final rule. At or above the upper exposure limit, miners would be withdrawn from the affected area of the increased exposure until the cause of the higher exposure was determined and remediated.

This upper limit would function similarly to a short-term exposure limit (STEL). It would also function similarly to a Section 104(b) order or a citation or order issued under Sections 104(d)(1) and (2). An operator would be required to

withdraw affected miners upon being provided notice of exposure via baseline sampling, periodic sampling, corrective action sampling, and MSHA sampling.

MSHA relies extensively on Buchanan, D., Miller, B.G., and Soutar, C.A. 2003, "Quantitative relations between exposure to respirable quartz and risk of silicosis." Occupational and Environmental Medicine. 60:159–164 available at https://www.regulations.gov/document/MSHA-2023-0001-0540 (hereinafter, "Buchanan 2003".) MSHA refers to Buchanan 2003 throughout the rulemaking notice. Relevant to this point, MSHA states:

> Buchanan *et al.* (2003) used these models to estimate the combined effect on the predicted risk of low quartz exposures (*e.g.,* 100 µg/m^3, equal to 0.1 mg/m^3) and short-term exposures to high quartz concentrations (*e.g.,* 2,000 µg/m^3, equal to 2 mg/m^3). Predicted risks were estimated for miners who progressed to silicosis level 2/1+ 15 years after exposure ended. ***This analysis showed the increase in predicted risk with relatively short periods of quartz exceedance exposures, over 4, 8, and 12 months.*** Buchanan *et al.* predicted a risk of 2.5 percent for 15 years quartz exposure to 100 µg/m^3 (0.1 mg/m^3). This risk increased to 10.6 percent with the addition of only 4 months of exposure at the higher concentration. The risk increased further to 72 percent with 12 months at the higher exposure of 2,000 µg/m^3 (2.0 mg/m^3).
>
> ***The results indicate miners exposed to exceedences above MSHA's existing standard could develop progression of silicosis at an exaggerated rate.*** The results of Buchanan *et al.* also indicated that miners' exposure to exceedances at MSHA's proposed standard will also suffer increased risk of developing progressive disease, though at a reduced rate (see Buchanan *et al.* (2003), Table 4, page 163).

FR 44852, 44888, emphasis added. In the absence of an upper exposure limit or STEL, miners will potentially be allowed to work in concentrations of respirable silica that could effectively negate, over time, the remedial effects of engineering and administrative controls.

Below is Table 4 from Buchanan 2003:

Table 4 Predictions of risk (%) of silicotic signs of profusion 2/1+, 15 years after exposure ends, as a function of 15 years spent in low concentrations and additional months in high (2 $mg.m^{-3}$) concentrations

Silica conc. ($mg.m^{-3}$)	Equivalent cum. exp. ($g.h.m^{-3}$)*	Extra months at 2.0 $mg.m^{-3}$ (SEM in italics)							
		0		4		8		12	
0.30	7.83	20.52	*4.95*	54.51	*8.74*	84.76	*7.83*	96.27	*3.25*
0.20	5.22	7.50	*1.77*	27.36	*5.96*	63.61	*13.22*	89.03	*8.59*
0.10	2.61	2.49	*0.89*	10.58	*3.72*	35.46	*14.18*	71.84	*18.37*
0.08	2.09	1.98	*0.78*	8.59	*3.32*	30.36	*13.49*	66.93	*20.36*
0.06	1.57	1.58	*0.68*	6.93	*2.94*	25.70	*12.58*	61.62	*22.08*
0.04	1.04	1.26	*0.59*	5.58	*2.58*	21.53	*11.53*	56.02	*23.40*
0.02	0.52	1.00	*0.51*	4.48	*2.25*	17.88	*10.39*	50.26	*24.18*
0.00	0.00	0.80	*0.44*	3.59	*1.95*	14.73	*9.23*	44.50	*24.37*

Population aged 50–74, post-1964 exposures. $\ln(p_2/(1-p_2)) = -4.83 + 0.44 \times CE_{<2} + 1.32 \times CE_{>2}$.
*Assumes a standard working year of 1740 hours.

As can be observed from Table 4, four months of cumulative exposure to 2.0 mg respirable silica can result in a higher level of risk as if the PEL for respirable silica exposure were 300 µg/m^3 for fifteen years. It would not be surprising if the surge in CWP cases is related to this phenomenon: exposure testing simply missed the incidents of high exposure, leaving the cumulative effects of the exposures to be discovered when it was much too late to correct the problems that led to them.

In its current form, the proposed rule does not appropriately address this problem. The day will likely come when instantaneous, real-time monitoring for respirable crystalline silica is available for both individual miners and for area monitoring. At that time, the respirable crystalline silica rule can be updated, similarly to MSHA's rulemaking with the CPDM.

Nevertheless, fifty years of mine dust exposure monitoring has failed to eliminate CWP and silicosis among mining industry workers. Enforcement of 100 µg/m^3 as the effective PEL has proven to be inadequate. However, MSHA's many years of experience in enforcing respirable mine dust and quartz exposures is instructive toward establishing 100 µg/m^3 as the upper exposure limit for continued miner work in affected jobs and dusty locations.

I believe that MSHA's analysis in the proposed rule supports establishing an upper limit of 100 µg/m^3. Tables C1-3 and C2-3 reflect, respectively, the percentage distribution of respirable silica exposure in the MNM industry from 2005 to 2019, and the percentage distribution of respirable crystalline silica exposure in the coal industry from 2016 to 2021. The information in the table below is derived from Tables C1-3 and C2-3:

Commodity or Location		Percentage (%) of Samples in ISO Concentration Ranges, > 100 µg/m^3
Metal		21.6
Nonmetal		4.5
Stone		7.4
Crushed Limestone		2.9
Underground coal		1.2
Surface coal		2.8

These data reflect the state of the current sampling and enforcement regime. Once a final rule governing respirable crystalline silica is in place and operators have implemented whatever controls are required to meet the revised PEL of 50 µg/m^3, ***samples that are greater than the previous standard of 100 µg/m^3 should be regarded as indicating potentially greater, uncontrolled exposures***. Consequently, miners would be withdrawn immediately and remain withdrawn until subsequent testing reflected that exposure levels had returned to below the PEL. For example, the withdrawal of miners could be required under the relevant (and revised) subsection of § 60.13.

Adding an upper action level would support and clarify the action level proposed in this rulemaking. Under the proposed rule, operators who observe a sample above the action level but below the PEL are only required to, "sample within three months of that sampling and continue to sample within three months of the previous sampling until two consecutive samplings indicate that miner exposures are below the action level." See, § 60.12(b). Notably, miners are allowed to continue working in the environment—as they are, under § 60.13, in the event that a violation of the PEL occurs. In its current form, the rule does not explain how MSHA will respond to silica exposures in excess of the previous (inadequate) standard.

MSHA will, of course, use all of the tools in its enforcement toolbox. MSHA has the authority to withdraw miners from hazardous conditions, without articulating an upper action level. Operators have a reciprocal right to contest any withdrawal order issued by MSHA—and therein lies the problem with MSHA's existing enforcement paradigm.

Assume, for the sake of argument, that an operator receives a citation for violating § 60.10 (permissible exposure level.) MSHA determines that a 104(d)(1) citation is justified and issues a withdrawal order under the Mine Act. At that point, the operator is required to withdraw affected miners until the hazard is abated and the citation or order is terminated. The operator abates the citation, it is terminated, and the operator files a notice of contest.

At that point, MSHA will have to defend its withdrawal order in court, before both an administrative law judge (ALJ) and likely the Federal Mine Safety and Health Review Commission. If it wins before the Commission, MSHA may have to further defend its decision before a United States Court of Appeals.

On the other hand, if MSHA writes miner withdrawal into the proposed rule, mine operators can only contest the withdrawal requirement once—after publication of the final rule. Since MSHA has included severability provisions within the proposed rule, a Court of Appeals could invalidate the upper action level and leave the remaining provisions intact. MSHA's authority to issue withdrawal orders under the Mine Act would remain. This rulemaking is MSHA's best chance to provide miners with an important added protection without having to face a series of contests where its interpretation of the rule is challenged by operators.

MSHA's abolition of miner rotation as an administrative control in § 60.11 is another example of an issue that is ripe for litigation. MSHA has taken the correct approach by banning the practice in the standard itself, but in order for the provision to survive a court challenge, MSHA needs to re-evaluate its bases for the prohibition.

MSHA's analysis of Section 60.11 states in part, "In its public response to MSHA's 2019 Request for Information for Respirable Silica (Quartz) (84 FR 45452, Aug. 29, 2019), NIOSH also supported the use of engineering controls as the primary means of protecting miners from exposure to respirable crystalline silica, stating that ''[r]espirators should only be used when engineering control systems are not feasible. Engineering control systems, such as adequate ventilation or scrubbing of contaminants, are the preferred control methods for reducing worker exposures.''

MSHA neglects to point out that NIOSH was also ***supportive of the use of miner rotation as an administrative control***:

> Many mining operations use administrative controls as part of their regular operating procedures. ***Job rotation is one example: a miner operates a piece of mining equipment for the first half of a shift and then is replaced by another miner who operates that equipment for the second half of the shift***. If this is a standard operating practice and is included in the ventilation/dust control plan (required for underground coal mining [30 CFR §75.371]), then there can be a benefit to collecting individual full shift respirable dust samples on both miners participating in the job rotation. This would allow mines to use this administrative control but require additional sampling to verify that the respirable dust exposure of each miner was maintained below the applicable respirable dust standard over the entire shift.

Emphasis added. See, "Comments to the Mine Safety and Health Administration (MSHA), Formal comments from the National Institute for Occupational Safety and Health (NIOSH) on "Respirable Silica (Quartz)" Request for Information, available at https://www.regulations.gov/comment/MSHA-2016-0013-0051 .

MSHA has not made sufficiently clear why it has unilaterally rejected miner rotation in its proposed § 60.11(b). MSHA states that it does not believe that miner rotation is "consistent with the Agency's regulatory framework or its mandate under the Mine Act," and further states that:

> The concept of miner rotation, which may be an appropriate control to minimize musculoskeletal stress, is not acceptable for work involving carcinogens. Based on NIOSH's publication entitled ''Current Intelligence Bulletin 68: NIOSH Chemical Carcinogen Policy,'' MSHA believes that the primary way to prevent occupational cancer is to reduce worker exposure to chemical carcinogens as much as possible through elimination or substitution at the source and through engineering controls (NIOSH 2017b).

88 FR 44852, 44905. https://www.cdc.gov/niosh/docs/2017-100/default.html Once again, MSHA mischaracterizes NIOSH's position on the use of administrative controls. In fact, NIOSH's Chemical Carcinogen Policy states as follows:

> Because there is no known safe level of exposure to occupational carcinogens, NIOSH will continue to recommend reduction of exposure to an occupational carcinogen as much as possible through substitution or engineering controls ***and administrative controls*** before use of personal protective equipment (PPE).

See, Current Intelligence Bulletin 68: NIOSH Chemical Carcinogen Policy, available at https://www.cdc.gov/niosh/docs/2017-100/default.html , emphasis added. Moreover, Paul Schulte—the author of NIOSH's responses to MSHA's RFI on respirable silica that is quoted, above—served as the chair of the Carcinogen and RELs Policy Update Committee that developed IB 68.

While MSHA is not bound by any particular recommendation made by NIOSH, it should better explain the bases for its rejection of miner rotation, as miner rotation is neither precluded for adoption as an administrative control either by NIOSH in its responses to MSHA's RFI on silica, nor prohibited in NIOSH IB 68 (which MSHA is interpreting in a manner inconsistent with IB 68, itself.)

In short, while there are very good reasons to prohibit miner rotation, MSHA's reason for the prohibition is inadequately explained and conflicts with the documentary record. As an administrative control, worker rotation is recognized as a valid means of risk management across many diverse industries and jobs. If MSHA is to abolish miner rotation from all of its regulated operations, it must do a better job of explaining why the industries and operations under its regulatory authority ought to be denied the use of such an ordinary administrative control.

Administrative controls will be an important part of baseline sampling under the proposed rule. Baseline sampling, itself, is an important part of MSHA's sampling regimen and a key provision of the proposed rule. MSHA's proposed baseline sampling requirements may result in some unexpected outcomes. Section 60.12 states as follows:

> **§ 60.12 Exposure monitoring.**
> (a) *Baseline sampling.* (1) The mine operator shall perform baseline sampling within the first 180 days after [date 120 days after publication of the final rule] to assess the full shift, 8-hour TWA exposure of respirable crystalline silica for each miner who is or may reasonably be expected to be exposed to respirable crystalline silica.
> (2) The mine operator is not required to conduct periodic sampling under paragraph (b) of this section if the baseline sampling indicates that miner exposures are below the action level and if the conditions in either paragraph (a)(2)(i) or (ii) of this section are met:
> (i) One of the following sources from within the preceding 12 months of baseline sampling indicates that miner exposures are below the action level:
> (A) Sampling conducted by the Secretary; or

(B) Mine operator sampling conducted in accordance with paragraphs (f) and (g) of this section; or
(C) Objective data.
(ii) Subsequent sampling that is conducted within 3 months after the baseline sampling indicates that miner exposures are below the action level.

As MSHA observes in the proposed rule, "For example, although mining tasks performed by the occupational category of roof bolters (underground) historically resulted in high levels of overexposure to quartz, the low levels of overexposure for that occupation in 2016–2021 (*i.e.,* 1 percent) suggest that roof bolters now benefit from the improved respirable dust standard, improved technology, and better training." 88 FR 44852, 44870. Indeed, that does appear to be true. However, it seems unlikely that MSHA intends for operators to no longer perform periodic sampling of roof bolters if the conditions of § 60.12 are satisfied. Below are MSHA inspector sampling data for roof bolters from an Illinois mine (these data were extracted from MSHA's Mine Data Retrieval System):

Mine ID	Sample Taken	Entity #	Occupation	Micrograms
1103189	8/3/2023	9060	014	8
1103189	4/12/2023	9060	014	10
1103189	1/23/2023	9060	014	15
1103189	12/8/2022	9060	014	17
1103189	7/23/2022	9060	014	9
1103189	4/6/2022	9060	014	16
1103189	2/9/2022	9060	014	23
1103189	8/11/2021	9060	014	12
1103189	4/7/2021	9060	014	35
1103189	2/10/2021	9060	014	75
1103189	9/4/2019	9060	014	11

If the MSHA inspection sample from August 3, 2023 was a baseline sample (for the sake of argument), the operator could argue that, based on MSHA's inspector samples from the previous twelve months, periodic sampling is not necessary or required under § 60.12(a)(2). ***In fact, it would be in mine operators' best interest to perform a similar exercise with every "entity" in their mines and eliminate the periodic sampling requirement to which the exclusions can apply***. MSHA could find itself in the first year of the proposed rule facing multiple such proposals from mining operations nationwide.

MSHA should consider whether such an outcome is consistent with its mandate from the Mine Act. ***It would be better for MSHA to force mine operators to pursue a Section 101(c) petition in order to obtain a variance from the***

requirements of the standards, than it would be for MSHA to provide a short path for the negation of the standard within the standard, itself. As proposed, the operator above could notify MSHA that on the basis of its August 3, 2023, sample, and verified by MSHA's inspection samples from April and January 2023, that it would not be performing periodic sampling under § 60.12(a)(2) for the roof bolter (job code 014) from "entity #" 9060. At that point, MSHA would have to issue a "failure to submit" citation for violating § 60.12(b). The citation would be contested, and if the operator prevailed, a potentially hazardous precedent would be set. From personal experience, it is much simpler—and quicker—to contest a citation than it is to submit a Section 101(c) petition and shepherd it from beginning to end.

Finally, MSHA needs to take steps to assure that the MNM medical surveillance provisions are administered objectively and MSHA should consider making the program mandatory for all MNM miners. I believe MSHA's confidence in market forces to supply the needed B readers is misguided. On page 44913 of the Proposed Rule, MSHA states:

> MSHA preliminarily concludes that the number of B readers in the U.S. is adequate to classify chest X-rays conducted as part of the respirable crystalline silica rule (OSHA 2016a, 81 FR 16286, 16821). As discussed in OSHA's 2016 final silica rule, the number of B Readers is driven by supply and demand created by a free market, and many physicians choose to become B readers based on demands for such services (OSHA 2016a, 81 FR 16286, 16822).

88 FR 44852, 44913. In October 2021, The Annals of the American Thoracic Society published, "Association between Financial Conflicts of Interest and International Labor Office Classifications for Black Lung Disease." See, https://www.atsjournals.org/doi/10.1513/AnnalsATS.202010-1350OC . The authors reviewed 7,656 Federal Black Lung Program court decisions from 2000 to 2013, along with 63,780 radiograph classifications made by 264 B-reader physicians. Their analysis revealed that, "There was a strong association between the source of payment and radiograph classification, suggesting the importance of eliminating financial COIs [conflicts of interest] in what should be an objective determination of eligibility for Black Lung Workers' compensation benefits."

While it may be unsurprising that financial conflicts of interest exist among B readers, the magnitude of the problem is truly striking, as the authors discuss:

> An investigative report in 2013 (4) identified several hundred cases of disagreement between B-readers, which led to rule changes affecting the FBLP. Our study provides the first systematic description of disagreement between B-readers, and we identified thousands of cases, not hundreds, in which a B-reader reported an absence of pneumoconiosis in contrast with another B-reader who indicated high-profusion simple pneumoconiosis (2/1 to 3/1) or PMF. We also found that the number of classifications submitted by B-readers primarily hired by employers outnumbered classifications submitted by those primarily hired by miners by twofold to fourfold, which could impact the weight of evidence during the court proceedings.

It is clear from this study that miners who see a B reader get what they pay for—*and so do mine operators*. The problem is that more often than not, mine operators are the party who retains and/or pays for such services and who benefit the most from the service. In light of this study, it is not surprising that only a fraction of coal miners avail themselves of NIOSH's Coal Workers' Health Surveillance Program. While various commenters have testified in regard to the financial motivation of miners for not participating in the Program, that factor might be easier to understand considering the loaded dice miners must roll when they apply for black lung benefits.

In light of this study—in addition to the 2014 Pulitzer Prize winning articles published by the Center for Public Integrity (see, https://publicintegrity.org/environment/johns-hopkins-medical-unit-rarely-finds-black-lung-helping-coal-industry-defeat-miners-claims/ --***MSHA needs to revisit Section 60.15, and at the very least, describe how the MNM medical surveillance program will operate without being affected by conflicts of interest.*** The free market has already spoken to this matter, and MSHA needs to respond in greater detail.

MSHA has made clear in the proposed rule that there is no safe level of respirable crystalline silica exposure, and providing for medical surveillance is one of the most important features of the proposed rule. While miners misgivings about participating in the program are valid, they should not be humored to the detriment of the miners, themselves. Medical surveillance is

the last line of defense against a tragic and debilitating disease. The only correct path is to require miners to participate—and to take every needed step to assure that the medical surveillance program is administered objectively and confidentially. MSHA cannot assure miners that they will not suffer permanently disabling illness under the provisions of the proposed rule, even if a miner's entire career is spent at compliant mines and are absent any exposures above the proposed PEL.

Thank you again for the opportunity to provide these comments.

Best regards,

Michael Parris