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To:	zzMSHA-Standards - Comments to Fed Reg Group
Subject:	Sam B. Petsonk Comment on RIN 1219–AB36, Docket No. MSHA–2023–0001
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Please find attached my comment on the rule proposed by MSHA on July 13, 2023, "Lowering Miners' Exposure to Respirable Crystalline Silica and Improving Respiratory Protection," RIN 1219–AB36; Docket No. MSHA–2023–0001.

Thank you very kindly for your efforts on this rule and for considering the attached comments.

Respectfully,

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Comment on Proposed Rule: "Lowering Miners' Exposure to Respirable Crystalline Silica and Improving Respiratory Protection"

RIN 1219–AB36
Docket No. MSHA–2023–0001
88 FR 44852 (July 13, 2023)

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I. INTRODUCTION

This proposed rule has arrived over a hundred years too late. The American public has long understood that miners commonly suffer and die from the scourge of silicosis caused by the drilling of sandstone. The tragedy of silicosis among rock drillers was widely memorialized as far back as the popular nineteenth-century folk song about John Henry, a legendary African-American driller who famously died after racing a steam drill to build the Big Bend railroad tunnel near Sandstone Mountain in southern West Virginia. Death from silicosis was common as the railroads raced to tunnel westward after the Civil War. In the Hawks Nest Tunnel Disaster of the 1930s in Fayette County, West Virginia, newspapers across the world reported the deaths from silicosis of hundreds more rock drillers---largely also African-Americans. Today, I live and practice law in Fayette County, representing hundreds of miners across the Appalachian Region who are still suffering and dying from severe silicosis mixed with black lung disease. Indeed, miners nationwide have continued to succumb to silicosis for decades, as reflected in the preamble to the proposed rule.

Therefore, it is a profound credit to Assistant Secretary Christopher J. Williamson and President Joe Biden that they have managed to bring forth a proposed silica rule from the Mine Safety and Health Administration (MSHA) after so many decades of inaction.

There are four notable shortcomings of the proposed rule: 1) it requires no routine sampling, 2) it utilizes sampling technology that is already outdated and ineffective (gravimetric samplers); that is, the proposed rule fails to require the "best available sampling technology" to achieve real-time sampling and risk-abatement, 3) it does not establish criteria for issuing citations when the rule is violated, and 4) its primary corrective action requires respirators rather than withdrawal from excessive exposure.

This comment explains each of these four shortcomings and proposes specific strike-and-replace amendments to the rule. Without addressing each of these four major

shortcomings through amendments substantially consistent with those proposed in this comment, the rule is at great risk of failing to achieve its stated goal of reversing the crisis of silicosis in America's mines.

The disease prevention provisions of the proposed rule are predominantly located in proposed Part 60 of Title 30 of the Code of Federal Regulations, on pages 45012-45015 of Volume 88 of the Federal Register. This comment is organized into the following sections: I) Introduction, II) Commentary, III) Proposed Amendments to the Rule (redline of regulatory text), IV) Questions, and V) Conclusion. The sections of this comment are responsive to a variety of the questions posed on 88 FR 44854, et seq. Citations to the relevant questions are contained in each subsection of the Commentary.

As for further biographical background on this commenter, I have focused my law practice on representing coal miners for nearly a decade in southern West Virginia and the surrounding region. I have represented thousands of miners in various legal disputes including safety grievances regarding excessive dust exposure, and disputes regarding wages and healthcare benefits. I have litigated hundreds of claims to secure compensation and medical treatment for occupational lung disease under state and federal law. Consequently, I am intimately familiar with the occupational exposures that give rise to silicosis, the various methods for reducing such exposures, and the medical and personal impacts of the disease on a wide population.

II. COMMENTARY

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3) The Proposed Rule Lacks Criteria for Issuing Citations or Taking Other Escalated Enforcement Measures.

4) The Proposed Rule Lacks Immediate Protections for Miners Who Are Overexposed.

1) <u>The Proposed Rule Requires No Routine Sampling</u>. The proposed rule contains, in practical effect, a one-time sampling requirement for mine operators. *See* Section 60.12(a). This initial "baseline sampling" must take place within six months of MSHA finalizing the rule. After that, under the proposed rule, operators will not generally be required to conduct ongoing quarterly sampling like they are for coal mine dust. There are three scenarios under which the proposed rule would trigger additional operator sampling: 1) MSHA catches the operator violating the PEL (highly unlikely), 2) MSHA catches the operator in violation (also unlikely and subject to strategic noncompliance, or 3) the operator voluntarily determines that miners may be exposed to high amounts of silica that exceed the PEL. This last scenario cannot be said to represent a mandatory sampling requirement due to its subjective, self-controlled nature. If the one-time sampling complies with the permissible exposure limit (PEL) for silica, the operator will generally not ever have to conduct silica sampling again.

History has shown us that operators are able to achieve strategic, nonrepresentative compliance with dust limits while MSHA inspectors are present. Quarterly sampling by MSHA is woefully infrequent to capture the regular dust hazards that place miners at extreme risk for silicosis during normal mining activities. MSHA sampling cannot be considered “routine sampling.” It is sporadic, at best. And generally unrepresentative of regular conditions.

The following discussion highlights these and other concerns about the approach to Exposure Monitoring under Section 60.12 of the proposed rule, addressing Questions 17-28, 88 FR 44856-7.

A) The Final Rule Should Require Mandatory Periodic Sampling, and Implement that Requirement Using a Plan-Based, Nondiscretionary Approach to Define When Mandatory Periodic Sampling Must Occur.

Under the Mine Act, all underground mine operators have long been required to develop and follow a ventilation plan approved by MSHA’s local District Manager. 30 CFR 75.370. The process of plan development, review, revision, and approval, is well-established and familiar to the industry. The provisions of the proposed rule regarding silica sampling and semiannual planning would be easily and naturally incorporated into the existing ventilation planning process. Including these in the ventilation plan is important because the ventilation plans provide a meaningful enforcement mechanism to ensure the silica measures are enforced and regularly updated as mining conditions evolve. That is, if an operator violates the silica control parameters that are in a

ventilation plan, there is a well-established and effective process under the Act for remedying those violations administratively and legally.

When added to the baseline approach in the proposed rule, a plan-based approach to mandatory, periodic silica sampling will ensure continuity of protections as the risk of silica exposure emerges during the mining cycle. Whenever a mine is creating freshly crushed silica---i.e. whenever a mine is operating mechanized mining equipment in silica-bearing rock, such as continuous miner machines and roof bolt machines---the final rule should require mine operators to conduct routine silica sampling. To implement this requirement, during the course of its regular review of mine ventilation plans, MSHA must ascertain whether a mine is expected to be creating freshly crushed silica. When a mine is or may reasonably be creating freshly-crushed silica, the final rule should require that operators must conduct periodic sampling. *A proposed redline amendment addresses this plan-based approach to periodic sampling below at §§ 60.12(b)(1),(3), (d), and (e).*

Mandatory periodic sampling should be triggered by clear and objective factors. It should not be the operator's decision whether to require sampling, as the proposed rule allows. *See* §60.12(e) ("Post-evaluation sampling."). There must be a simple and straightforward trigger for this sampling requirement. Namely, if an underground mine operator is mining through or bolting into silica-bearing rock, the operator must conduct periodic sampling. Affording the agency discretion to waive the periodic sampling requirement *while an operator is known to be producing freshly crushed silica dust* leaves too much room for gamesmanship. It is well-established that the production of freshly crushed silica always engenders pathogenic respirable silica. *See* Steven J. Schatzel, "Identifying sources of respirable quartz and silica dust in underground coal mines in southern West Virginia, western Virginia, and eastern Kentucky," International Journal of Coal Geology, Volume 78, Issue 2, 2009, Pages 110-118, ISSN 0166-5162, https://doi.org/10.1016/j.coal.2009.01.003; Porter, et al., "Comparison of low doses of aged and freshly fractured silica on pulmonary inflammation and damage in the rat," Toxicology, 2002 Jun 14;175(1-3):63-71, doi: 10.1016/s0300-483x(02)00061-6.

Accordingly, if an underground mine is producing minerals that have been demonstrated to contain silica, MSHA must require the operator to conduct routine or periodic sampling --- and as set forth below under "Representative Samples," such sampling must include both designated occupations ("DO") (monitoring the individual miners on the working sections, including the foremen) and designated areas ("DA") (machine-mounted monitoring to track the liberation of freshly crushed silica on each mechanized mining unit and other exposed machines including roof bolters). This sampling requirement should be nondiscretionary under the rule.

First, under this plan-based approach to periodic sampling, the presence of freshly crushed silica in mining may be demonstrated to MSHA during ventilation plan review or based on the complaint of a miner or miner's representative. For instance, if the mine maps or other documentation indicates that silica is, or may reasonably likely be, contained in the mined substance, the rule should require the operator to conduct

periodic sampling until the materials produced or pulverized at the mine do not contain silica-bearing rock or minerals. As noted, through its review of mine maps (30 CFR 75.1200) and ventilation plans, MSHA currently already is informed of the seams and materials being produced in each underground mine. No new gathering of information is required by this amendment to the rule.

Second, under this plan-based approach, each time that an operator submits a proposed change to its ventilation, roof or dust control plans, MSHA would assess the risk of elevated silica exposure. If the proposed change to the plans would elevate the risk of silica exposure, MSHA may require periodic sampling as a condition of approving the proposed change to the relevant plan. More generally, MSHA should reserve the authority to require periodic sampling at any time to reflect such changing conditions in the mine.

***The Final Rule Should Include the Semi-Annual Evaluation as Part of an Underground Mine's Ventilation Plan*.** The Proposed Rule requires operators to conduct a semi-annual evaluation of silica exposure. Sec. 60.12(d). The operator should submit this evaluation to MSHA as part of the operator's ventilation and dust control plan. The semi-annual evaluation should be posted at the mine site for review and commentary by miners for at least 10 days before it is submitted to MSHA. Then, at the time of each such semi-annual submission, MSHA should assess whether to require periodic sampling to be conducted by the operator. MSHA may withhold or rescind approval of the relevant plan if the operator does not adopt sufficient protective conditions to prevent exposures above the action level or PEL. MSHA must then cite the operator for violating the plan if the operator is found not to be conducting sampling during all periods and using all methodologies for sampling that are required under the plan. *A proposed redline amendment addresses this problem below at § 60.12(d).*

The proposed rule establishes this semiannual evaluation of dust conditions, but the proposed rule places all the decision-making in the hands of operators regarding whether to conduct periodic sampling based on those evaluations. The decision to require additional operator sampling on a discretionary basis should be in the hands of MSHA, not mine operators. MSHA must reserve the discretion to require operator sampling whenever the agency perceives a risk of respirable silica exposure. However, the proposed rule has it just the opposite. The proposed rule will let mine operators decide whether or not they must sample miners for silica. This is worse than letting the fox guard the henhouse. This is letting the fox decide whether or not it should be bothered with periodically guarding the henhouse. Letting operators decide whether or not to conduct periodic sampling is a prescription for surefire failure.

As noted, the Proposed Rule (Section 60.12(e)) allocates authority to mine operators to decide whether miners may be exposed to high amounts of silica that exceed the PEL, which then triggers periodic sampling. This does not a mandatory requirement for periodic sampling. The trigger for periodic sampling must be based on objective, verifiable, nondiscretionary factors---i.e. if an underground mine is producing silica, then the operator must conduct periodic sampling---both DO and DA sampling, as discussed

further below. Rigorous periodic sampling must be mandatory under the rule. *A proposed redline amendment addresses this problem below at § 60.12(e).*

Enforcement During Plan Review. During the regular process of plan review, MSHA should analyze the production reports and maps from the mine to determine whether the operator plans to be (or is) mining through rock that contains silica. If a mine operator is determined to have been creating freshly crushed silica without providing for periodic sampling in its ventilation plan, MSHA should assess appropriate penalties.

B) The Rule Should Reiterate MSHA's Commitment to Quarterly Silica Sampling by Federal Mine Inspectors

To supplement operator sampling, MSHA must also continue to conduct its sampling quarterly. In order to ensure robust and sustained surveillance through MSHA, the final rule should incorporate into Part 60 an affirmative commitment that MSHA shall conduct quarterly sampling under its authority and duties in Section 103(a) of the Mine Act. *A proposed redline amendment addresses this problem below at § 60.12(b)(2).*

C) The Rule Must Prescribe Sufficient Parameters to Ensure that Operator Sampling is Comprehensive, Consistent, and Representative of Typical Mining Conditions.

The proposed rule includes sampling standards for silica that are, in concerning ways, substantially weaker than the current coal-mine dust sampling standards, as set forth below.

First, the current coal-mine dust rule (30 CFR 70.201) requires operators to sample designated occupations (DOs) as well as designated areas (DAs). This means that, for coal dust sampling, miners in the designated occupations have to wear pumps everywhere they go and there must also be pumps stationed in highly dusty designated areas around machines that may cause extremely high exposures to dust. This combination of the two sampling methods ensures that miners who are sampled for the designated occupations cannot under-represent the amount of dust liberated from the machines by avoiding the dustiest work areas while they are being sampled. That is, sampling devices must be mounted to the machines themselves in addition to the personal samplers worn by the miners. However, the proposed silica rule will not require sampling of both DOs and DAs. *See* § 60.12(f)(2)(ii) (allowing operators to sample *either* §70.201(b) (designated areas) *or* (c) (designated occupations)). Consequently, significant areas of respirable silica exposure may be totally unmonitored while the designated workers simply adjust their position away from the dustiest areas to avoid detecting overexposures while the rest of the crew works, overexposed, in the unmonitored designated areas. The preamble to the proposed rule failed to conduct any surveillance or analysis of DA dust samples from historic data that would include silica exposures. For these reasons, the final rule should take a more protective and

preventive approach by requiring the sampling of both designated occupations and designated areas for silica, just like MSHA requires for coal mine dust. *A proposed redline amendment addresses this problem below at § 60.12(f)(2)(ii).*

Second, the extent and nature of the baseline or other sampling required under the proposed rule is unclear. Under the baseline sampling, periodic, corrective actions, and post-evaluation sampling under §§ 60.12(a), (b), (c), and (e), it is unclear whether the operator will have to run five consecutive daily samples like they do quarterly now for coal mine dust, or just take a single-shift sample. *A proposed redline amendment addresses this problem below at § 60.12(f)(1).*

Third, the proposed rule does not appear to require baseline sampling at mines that become active in the future after the rule becomes effective. That is, the rule only requires the baseline sampling to occur within 180 days of the rule becoming final. What will trigger baseline sampling at future mines? The final rule must include language that captures that universe of future mines. *A proposed redline amendment addresses this problem below at § 60.12(a).*

Fourth, the rule does not contain any guidance about the conditions under which sampling must occur, such as during all dusty phases and tasks of coal mine operations, including construction, turning corners, retreat mining, foreman's face examinations, etc. MSHA should incorporate in the final rule the current sampling parameters under MSHA's Silica Enforcement Initiative as part of the mandatory conditions for sampling---both for baseline and periodic sampling. Placing the terms of the Silica Enforcement Initiative in the final rule will ensure that sampling occurs during all relevant portions of the mining sequence (such as turning corners, etc.), and that they remain constant over time. *A proposed redline amendment addresses this problem below at § 60.12(f)(1).*

Construction Work. **Currently, MSHA includes special parameters in a mine's ventilation plan for work that occurs during construction periods. MSHA should not approve ventilation plans that do not require periodic sampling during all phases of major construction work. If MSHA or miners themselves catch an operator failing to sample during these major construction activities that may generate acute silica exposures, MSHA can issue a knowing and willful citation for violating that ventilation plan.** *A proposed redline amendment addresses this problem below at § 60.12(b)(4).*

D) MSHA Should Review and Approve an Operator's Plan for What Constitutes a "Representative Fraction" of Miners to Sample. Under the proposed rule, operators will be allowed to select a "representative fraction" of miners to be sampled. *See* Sec. 60.12(f)(3). The decision about which miners to sample should be made in the first instance by MSHA, or at minimum should be reviewed and approved by MSHA. As to designated areas, which should be sampled under the final rule, mine operators should be required to mount dust sampling units onto each mechanized mining unit, each roof

bolt machine, and any other designated area specified by MSHA or requested by miners or a miner's representative. The final rule must require sampling according to both §§ 70.201(b) and (c), rather than either/or.

This comment responds to Questions 27 and 28. *A proposed redline amendment addresses the plan-based approach to periodic sampling below at §§ 60.12(f)(3).*

The final rule should also specify that miners or miners' representatives have the right to request, as part of any sampling, that the operator take samples of specific individual miners, or specify certain designated occupations or designated areas.

2) The Final Rule Should Require the "Best Available Sampling Technology," Similar to the CPDM for Coal-Mine Dust with the Capability to De-Energize Equipment When Dust Levels Are Too High. Without a Regulatory Mandate, Samplers for Underground Mines Will Not Improve in a Timely Fashion.

The Sampling Requirements of the proposed rule (§60.12(f)) contemplate the continued use of gravimetric samplers under the nearly thirty-year-old standards of ISO 7708:1995. Gravimetric samplers do not provide real-time information about exposures. The results are often unavailable for over a week following the sampling, making it impossible to contain or abate the excessive exposure. Furthermore, by the time the gravimetric samples return from the lab, the location and nature of the mining activity has often changed, therefore making it likely superfluous to fashion a corrective action plan based on the week-old work conditions.

Therefore, ***the final rule should require the use of the "best available sampling technology" --- including a continuous silica-sampling machine with the capability to de-energize mechanized mining equipment when dust exceeds the PEL --- which shall become mandatory under the rule as soon as such a system becomes reliable under mining conditions and commercially available***.

This is a critical aspect of this comment. The opportunity to adopt a technology-forcing standard for the improvement of silica sampling will not likely come along for quite some time. This standard would simply inspire confidence in the market that, if the technology can be developed, MSHA will ensure there is a market for that technology. This is one of the most critical missing links in the proposed rule, which relies on extremely old technology that is already outmoded and incapable of achieving real-time relief from excessive exposures.

This comment responds to Question 16. *A proposed redline amendment addresses this problem below at § 60.12(f)(4).*

3) <u>The Proposed Rule Specifies No Criteria for Issuing Citations or Other Escalated Enforcement</u>. The rule does not specify whether or when MSHA will issue any citations. Consequently, it is unclear what extent of noncompliance will trigger monetary penalties or withdrawal orders for violations of the silica PEL. *See* Section 60.13 of the proposed rule (corrective actions are the only specified response to violations of the PEL). Unlike the 2014 coal mine dust rule, there are no specified thresholds or criteria for the issuance of citations or other enforcement measures.

MSHA certainly possesses authority to issue citations and to propose the assessment of civil penalties for observed violations of mandatory health standards like Part 60. However, such an important issue must not be left to program policy. The criteria for when citations will issue were set forth in the 2014 coal mine dust rule. They should be set forth clearly in this rule as well. The proposed rule does not set forth any criteria or thresholds for issuing penalties or taking any other escalated enforcement, such as withdrawing miners in the event that an operator does not implement the proposed corrective action.

Failing to swiftly and consistently assess monetary penalties has proven to be an ineffective method of deterring excessive dust exposure and reversing the epidemic of black lung disease. Accordingly, single-sample violations must be expressly set forth in the rule as the basis for assessing monetary penalties. By way of background and context, the 2014 coal mine dust rule adopted criteria for the issuance of citations but only required those citations when two or more operator samples exceeded the PEL within a given sampling period, or when the average of all five operator samples exceeded the PEL. This allowed operators to detect that dust controls were failing while they were being sampled, temporarily adjust their controls, and avoid any financial penalty. In practice, operators just reverted to their noncompliant mining practices as soon as the sampling period was complete. Moreover, samples were not even deemed to be noncompliant unless the sample exceeded a level known as the "excessive concentration value," which was above the PEL. The black lung epidemic has foreseeably worsened exponentially under such a penalty-averse enforcement scheme.

A proposed redline amendment addresses this problem below at § 60.13.

4) <u>No Immediate Protections for Miners Who Are Overexposed</u>. ***The rule allows operators to require miners to keep working in excessively dusty conditions so long as they have respirators -- but these respirators may not protect them much at all, and may place them at greater risk of traumatic injury from mobile mining equipment due to muffled communications and obscured vision. Miners should not be forced to work in too much dust -- even if they have respirators. Miners should be withdrawn when silica levels are known to be above safe levels.*** For the first time ever, this rule will require miners to work in known, excessively dusty conditions while wearing respirators. *See* Section 60.14 of the proposed rule ("Miners must use respirators when working in concentrations of respirable crystalline silica

above the PEL while: (1) Engineering control measures are being developed and implemented; or (2) It is necessary by the nature of work involved.").

MSHA should amend this requirement in the final rule to reflect the well-acknowledged accounts by many miners that respirators have not reliably prevented inhalation of respirable silica or other dust in underground mining environments.

A proposed redline amendment addresses the plan-based approach to periodic sampling below at §§ 60.14.

III. PROPOSED AMENDMENTS TO RULE (REDLINE)

§ 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], or 180 days after the mine initially commences production, whichever occurs later, 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 mine is not producing or reasonably anticipated to freshly crushed silica, and 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.

(b) *Periodic sampling.* (1) Where ~~the~~ a mine is producing, or reasonably anticipated to produce, freshly crushed silica, or where at any mine the most recent sampling indicates that miner exposures are at or above the action level but at or below the PEL, the mine operator shall sample within 3 months of that sampling and continue to sample within 3 months of the previous sampling until two consecutive samplings indicate that miner exposures are below the action level, or until such mine is not producing or reasonably anticipated to produce freshly crushed silica, whichever occurs later.

(2) The Secretary shall conduct silica sampling no less frequently than every quarter at each underground coal or other mine.

(3) Mine operators shall include provisions for carrying out periodic sampling, as required under this section, in all ventilation plans, and revisions thereto, submitted under §75.370.

(4) Periodic sampling must occur during all major construction activities.

(c) *Corrective actions sampling.* Where the most recent sampling indicates that miner exposures are above the PEL, the mine operator shall sample after corrective actions taken pursuant to § 60.13 until the sampling indicates that miner exposures are at or below the PEL.

(d) *Semi-annual evaluation.* At least

every 6 months after [date one year after the effective date of the final rule], mine operators and the Secretary shall evaluate and document any changes in production, processes, engineering or administrative controls, or other factors that may reasonably be expected to result in new or increased respirable crystalline silica exposures. Once the evaluation is completed, the mine operator shall:

(1) Make a record of the evaluation and the date of the evaluation; and

(2) Post the record on the mine bulletin board and, if applicable, by electronic means, for the next 31 days; and

(3) For underground coal mines, submit the evaluation in writing to the District Manager for review and inclusion under §75.370 as part of the mine's ventilation plan.

(e) *Post-evaluation sampling.* If the mine operator or the Secretary determines ~~s~~ at any time, or as a result of the semi-annual evaluation under paragraph (d) of this section that miners may be exposed to respirable crystalline silica at or above the action level, the mine operator shall perform sampling 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 at or above the action level.

(f) *Sampling requirements.* (1) Sampling shall be performed for the duration of a miner's regular full shift and during typical mining activities. (i) Sampling shall take place on five consecutive shifts for each miner who is or may reasonably be expected to be exposed to respirable crystalline silica.

(ii) Sampling shall be performed while all sampled miners are engaged in all work activities, and while occupying all work positions, that they may experience during a week.

(iii) If a mine's ventilation, roof, or dust control plans permit miners to work downwind from roof bolt or mechanized mining machines that are engaged in drilling or mining, then sampling shall be performed while all such miners are working downwind from the active drilling or mining of coal or other mined material for an amount of time that is typical for such work at that mine. For underground mine foremen, sampling must occur while they are performing their regular examinations and the sections being examined are producing an amount of coal or other mined material, or conducting an amount of roof bolting, that is representative of the typical daily operations of the mine.

(2) The full-shift, 8-hour TWA exposure for such miners shall be measured based on:

(i) Personal breathing-zone air samples for metal and nonmetal operations; or

(ii) Occupational environmental samples collected in accordance with § 70.201(c) ~~or~~ and (b), or § 90.201(b) of this chapter for coal operations.

(3) Where several miners perform the same tasks on the same shift and in the same work area, the mine operator must sample all such miners. ~~may sample a representative fraction (at least two) of these miners to meet the requirements in paragraphs (a) through (e) of this section. In sampling a representative fraction of miners, the mine operator shall select the~~ miners

~~who are expected to have the highest exposure to respirable crystalline silica.~~
(4) The mine operator shall use the best available sampling technology (BAST) for respirable-particle-size-selective samplers that, at a minimum, conform to ISO 7708:1995 to determine compliance with the PEL, and that include: a) provide continuous dust-sampling with real-time projection of end-of-shift exposure, and b) for designated area sampling, are machine-mounted on each mechanized mining unit, roof bolt machine, and any other machine specified by the Secretary, and that will de-energize such mining equipment when dust exceeds the PEL, all of which shall become mandatory under this rule as soon as such systems become reliable under mining conditions and commercially available.
ISO 7708:1995, Air Quality—Particle Size Fraction Definitions for Health-Related Sampling, Edition 1, 1995–04, is incorporated by reference into this section with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. This material is available for inspection at the Mine Safety and Health Administration (MSHA) and at the National Archives and Records Administration (NARA). Contact MSHA at: MSHA's Office of Standards, Regulations, and Variances, 201 12th Street South, Arlington, VA 22202–5450; 202–693–9440; or any Mine Safety and Health Enforcement District Office. For information on the availability of this material at NARA, visit *www.archives.gov/federal-register/cfr/ibr-locations.html* or email *fr.inspection@nara.gov.* The material may be obtained from the International Organization for Standardization (ISO), CP 56, CH–1211 Geneva 20, Switzerland; phone: + 41 22 749 01 11; fax: + 41 22 733 34 30; website: *www.iso.org*.
(g) *Methods of sample analysis.* (1) The mine operator shall use a laboratory that is accredited to ISO/IEC 17025 ''General requirements for the competence of testing and calibration laboratories'' with respect to respirable crystalline silica analyses, where the accreditation has been issued by a body that is compliant with ISO/IEC 17011 ''Conformity assessment—Requirements for accreditation bodies accrediting conformity assessment bodies.''
(2) The mine operator shall ensure that the laboratory evaluates all samples using respirable crystalline silica analytical methods specified by MSHA, the National Institute for Occupational Safety and Health (NIOSH), or the Occupational Safety and Health Administration (OSHA).
(h) *Sampling records.* For each sample taken pursuant to paragraphs (a) through (e) of this section, the mine operator shall make a record of the

sample date, the occupations sampled, and the concentrations of respirable crystalline silica and respirable dust, and post the record and the laboratory report on the mine bulletin board and, if applicable, by electronic means, for the next 31 days, upon receipt.

§ 60.13 Corrective actions.

(a) If any sampling indicates that a miner's exposure exceeds the PEL as indicated by a single shift sample in excess of the applicable limit, the Secretary shall issue an appropriate citation or order, and propose the assessment of a civil penalty under the Act, and the mine operator shall:

(1) Cease production of all mined commodities, and temporarily transfer all affected miners to work in a separate area of the same mine, until sampling pursuant to § 60.12(c) indicates dust levels have returned below the PEL;

2) Make approved respirators available to ~~affected~~ miners engaged in implementing corrective actions before the start of the next work shift in accordance with § 60.14;

(~~3~~2) Ensure that ~~affected~~ miners engaged in corrective actions wear respirators properly for the full shift or during the period of overexposure until miner exposures are at or below the PEL; and

(~~4~~3) Immediately take corrective actions to lower the concentration of respirable crystalline silica to at or below the PEL.

(~~5~~4) Once corrective actions have been taken, the mine operator shall:

(i) Conduct sampling pursuant to § 60.12(c); and

(ii) Take additional or new corrective actions until sampling indicates miner exposures are at or below the PEL.

(b) The mine operator shall make a record of corrective actions and the dates of the corrective actions under paragraph (a) of this section.

§ 60.14 Respiratory protection.

(a) *Temporary non-routine use of respirators.* The mine operator shall use respiratory protection as a temporary measure in accordance with paragraph (c) of this section. Miners must use respirators when working in concentrations of respirable crystalline silica above the PEL while:

(1) Engineering control measures are being developed and implemented; or

(2) It is necessary by the nature of work involved.

(b) *Miners unable to wear respirators.* Upon written determination by a physician or other licensed health care professional (PLHCP) that an affected miner is unable to wear a respirator, the miner shall be temporarily transferred either to work in a separate area of the same mine or to an occupation at the same mine where respiratory protection

is not required.
(1) The affected miner shall continue to receive compensation at no less than the regular rate of pay in the occupation held by that miner immediately prior to the transfer.
(2) The affected miner may be transferred back to the miner's initial work area or occupation when temporary non-routine use of respirators under paragraph (a) of this section is no longer required. […]

IV. QUESTIONS

After reviewing the Proposed Rule, a number of questions remain unanswered. Please provide answers to the following items in the Final Rule.

1) **Environmental Sample Analysis**. Has MSHA conducted any written analysis of environmental samples of quartz (i.e. designated area samples for quartz) that were taken historically for engineering, research, or other purposes, similar to the analysis of occupational samples for the period 2016-2021 that was contained in the preamble to the proposed rule?

Can MSHA provide a table like Table IV-5 (88 FR 44868) for such environmental samples, or provide some other analysis from NIOSH to represent an experience-based assessment of silica levels that would be captured by "designated area" sampling?

2) **Baseline Sampling**. When does the agency anticipate that baseline sampling will occur for mines that become active after the effective date of the final rule?

How many days of baseline sampling must occur under the proposed rule, and who makes that determination?

3) **Enforcement**. Will MSHA issue a citation and propose the assessment of a penalty based on a single violative sample?

Will MSHA take any escalated enforcement action based on failure to implement a corrective action? Experience with corrective actions under current dust control rules indicates that MSHA will issue subsequent corrective actions, but will not or cannot cite operators for departing from prior corrective actions.

What criteria or thresholds will govern the issuance of escalated enforcement based on an operator's failure to timely implement a corrective action? The final rule should specify these criteria or thresholds for escalated enforcement of the PEL---otherwise, as has been the case with coal mine dust under the current rule, it is unlikely to occur. The proof of insufficient enforcement has been in the pudding of the rapid escalation of black lung disease and silicosis.

5) **Protecting Miners During Abatement of Overexposures**. As to Sec. 60.14, did MSHA produce any written assessment of the feasibility of ordering miners to be withdrawn during a known overexposure---as opposed to requiring respirators during the abatement period for that exposure, as provided in the proposed rule? If so, please provide the results of that analysis.

6) **Sampling Conventions under ISO 7708:1995.** Did MSHA evaluate whether the "tracheobronchial" and "high-risk" conventions under ISO 7708:1995 should be used when sampling miners as a high-risk population? ISO 7708:1995 states that the "tracheobronchial convention should be used when the exposed population includes

these ‘high-risk’ groups, and the ‘high-risk’ respirable convention may be used in these circumstances.”

7) **Best Available Sampling Technology (BAST)**. What written analysis did the agency perform regarding the cost of requiring the "best available sampling device" (i.e. a standard that may be interpreted by agency guidance as technology improves, without requiring amendments to the rule), as opposed to specifically requiring a sampler that conforms with ISO 7708:1995?

V. CONCLUSION

Thank you very kindly and sincerely to all who had a hand in support of this rulemaking, and thank you to the good people of MSHA for considering the foregoing commentary, suggestions, and questions.

Respectfully,

Sam B. Petsonk