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Submitted electronically via Regulations.Gov website

Re: Lowering Miners' Exposure to Respirable Crystalline Silica and Improving Respiratory Protection, RIN 1219-AB36, MSHA-2023-0001

Dear Ms. Noe,

The National Mining Association (NMA) appreciates the opportunity to submit comments on the Mine Safety and Health Administration's (MSHA) proposal to amend its existing standards to better protect miners against occupational exposure to respirable crystalline silica and to improve respiratory protection for all hazards.[1] The safety and health of our nation's miners is the primary concern of all of our members, and the NMA has a long history of engagement in efforts to improve protection for miners. As such, the NMA and its members support the lowering of the silica standard to better protect our most precious resource, our miners. As discussed below, however, we do have concerns about the proposed implementation of the standard.

I. Introduction

The comments below are divided into this introduction followed by two major sections. Section II addresses the NMA's overarching concerns about the

[1] 88 Fed. Reg. 44852 (July 13, 2023).

proposed standard and its implementation. Section III provides comments on many of the 43 questions posed by MSHA in the proposal.[2] To the extent there is overlap between the two sections, we will provide cross-references to the overarching comments in the responses to the questions.

A. NMA Statement of Interest

The NMA is the only national trade organization that serves as the voice of the U.S. mining industry and the hundreds of thousands of American workers it employs before Congress, the federal agencies, the judiciary, and the media, advocating for public policies that will help America fully and responsibly utilize its vast natural resources.

America's mining industry supplies the essential materials necessary for nearly every sector of our economy – from technology and healthcare to energy, transportation, infrastructure, and national security. The NMA has a membership of nearly 280 companies and organizations involved in every aspect of mining in the United States. NMA's members work to ensure America has secure and reliable supply chains, abundant and affordable energy, and the American-sourced materials necessary for U.S. manufacturing, national security, and economic security, all delivered under world-leading environmental, safety, and labor standards.

Furthermore, the mining industry employs hundreds of thousands of Americans nationwide. Mining supports nearly 500,000 direct jobs and over 800,000 indirect jobs. More than $100 billion annual U.S. revenues are generated through mining, and more than $18 billion total federal, state, and local taxes are attributable to mining jobs. The average annual salary for a miner in the U.S. is more than $80,000, well above the U.S. average wage of $59,000. Mining operators are often major employers in rural areas and help drive local economic growth.

NMA's producer members, all of whom would be impacted by the proposal, conduct surface and underground coal and metal/nonmetal (MNM) operations across the U.S. These operations include a wide range of activities that may involve exposure to silica from drilling and excavation to processing and hauling. Given the existing regulatory frameworks applicable to coal and MNM operations, the NMA notes that an identical approach will not work for coal and MNM in all circumstances. For example, as discussed later in these comments, MSHA has long recognized the myriad of differences between coal and MNM, even so far as to create separate dust

[2] 88 Fed. Reg. at pp. 44854-44858.

sampling parameters. Upending the existing sampling frameworks applicable to each sector in an attempt to create a uniform approach will complicate sampling efforts and frustrate MSHA's desired goal of a smooth and rapid adoption of this crucial initiative.

B. Acceptance of Proposed 50 µg/m^3

The prevention of lung disease is an area that needs our collective attention to build upon the advances of the past 20 years. Over the last two decades, effective ventilation engineering controls have been widely adopted to control mine dust both in surface and underground coal and MNM mines. Adopting best practices, strictly adhering to ventilation and dust control plans, and increasing miner and operator awareness have all contributed to exponentially lowering dust levels in both underground and surface mines.

Working together, equipment manufacturers and mine operators have invented and implemented effective ventilation controls, such as the full-face miner that removes dust at its generation point to within five feet of the face. Wet bed scrubbers and water spray technology have greatly reduced dust exposures. HEPA-filtered enclosed cabs in surface and underground haulage equipment keep dust levels to a minimum. Throughout the development of all these engineering controls, the National Institute for Occupational Safety and Health (NIOSH) has conducted research to establish effectiveness, which hastened adoption and widespread use. Due to improved technology in the mining industry, diligence by the mining operators to provide a healthful work environment, and intelligent regulations promulgated and enforced by MSHA, miners today work in one of the most health and safety-conscious industries in America.

Technological advancements continue to be made. For example, as envisioned by MSHA's 2014 rule, "Lowering Miners' Exposure to Respirable Coal Mine Dust, Including Continuous Personal Dust Monitors" (2014 Coal Dust Rule)[3], the continuous personal dust monitor gives coal miners a minute-by-minute readout of dust exposures. We look forward to the development of a similar device to measure silica exposures, which is under development by at least one manufacturer.

While progress is positive, disease persists and we believe more can be done, which is a primary reason that the NMA is supporting the proposed 50 µg/m^3 permissible exposure limit (PEL). We agree that there is benefit to the miner and operator if we can reduce and sustain silica levels to the lowest

[3] 79 Fed. Reg. 24814 (May 1, 2014).

reasonably practicable level, provided additional mitigations such as respiratory protection are accepted when the levels are elevated. The proposed MSHA PEL is consistent with recommendations of NIOSH[4] and mirrors Occupational Safety and Health Administration's (OSHA) 2016 PEL in its "Occupational Exposure to Respirable Crystalline Silica" rule (2016 OSHA Silica Rule)[5] that is applicable to many of its regulated industry sectors.

C. Preview of Major Concerns

As detailed below, while the NMA supports the 50 µg/m^3 standard, we have significant concerns regarding the implementation of the standard. Chief among these is MSHA's application of the hierarchy of controls for the purposes of the silica standard compared to the approach utilized by OSHA in its 2016 Silica Rule. Another significant concern is the unreasonably short timeframe for implementation of, and compliance with, this very complex rulemaking. Our comments also address the approach to sampling and surveillance, which are not currently risk based and with refinement could better distribute available resources. Another key issue relates to the need for an error factor applied to the PEL and action level (AL) to account for sampling and analytical weighing errors. Finally, we raise concerns with MSHA's use of an eight-hour shift length as it will not accurately capture the miner's exposure to silica during their work shift and it is inconsistent with both NIOSH's recommended exposure limit (REL) and OSHA's 8-hour time-weighted average.

II. General Comments/Overarching Concerns

A. Failure to Allow Implementation of Full Hierarchy of Controls

As proposed, MSHA would not permit mine operators to deploy a comprehensive approach that uses the "hierarchy of controls" to protect miners' health and to comply with the proposed silica standard. As articulated by NIOSH, the hierarchy states the most effective controls are elimination, substitution, engineering, administrative, and personal protective equipment. [6] It is an accepted industrial hygiene practice to use

[4] Please note, however, as discussed later in these comments, NIOSH's REL is 50 ug/m3, but calculated to a 10-hour shift. With MSHA changing it to an 8-hour calculation, they are not following NIOSH's recommended limit. MSHA should calculate to a 10-hour shift and follow NIOSH's recommendations.
[5] 81 Fed. Reg. 16286 (March 25, 2016).
[6] "Hierarchy of Controls" (Hierarchy) is a process to control occupational hazards to protect individuals. The hierarchy states the most effective controls are elimination, substitution,

some combination of the controls to best protect employees from overexposure to silica.

OSHA's 2016 Silica Rule demonstrates the benefits of such an approach. In that rule, OSHA treats engineering and administrative controls (e.g., work practices) as equally effective in reducing silica dust exposures to achieve compliance.[7] Furthermore, if these controls do not achieve compliance with the PEL, OSHA allows the use of respirators. If both fail, OSHA requires employers to supplement them with respiratory protection to achieve compliance.[8] OSHA further requires employers to provide respirators to employees, and employees to wear the respirators provided by the employers when they enter regulated areas.[9]

MSHA needs to recognize that relying ***exclusively*** on engineering controls has not stopped lung disease among miners and that supplemental controls are necessary to protect health. Technological progress in engineering controls has been positive, but challenges remain, and more can be done if MSHA **and** industry's goal of eradicating lung disease among miners is to be accomplished. As explained further below, broader use of administrative controls and acceptance of personal protective equipment (PPE) should be allowed to achieve and comply with the reduced PEL.

1. Engineering Controls

MSHA's proposal discusses a number of potential engineering controls "designed to remove or reduce the hazard at the source."[10] Examples MSHA provides include: the installation of proper ventilation systems, use of water sprays or wetting agents to suppress airborne contaminants, installation of machine-mounted dust collectors to capture respirable crystalline silica and other contaminants, and the installation of control booths or environmental cabs to enclose equipment operators.

The NMA agrees that engineering controls play an important role in miner protection. For example, over the last two decades, effective ventilation engineering controls have been widely adopted in both surface and

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engineering, administrative, and personal protective equipment. It is an accepted industrial hygiene practice to use the controls in combination to act a redundant measures and best protect employees from hazards. https://www.cdc.gov/niosh/topics/hierarchy/default.html

[7] 81 Fed. Reg. at 16651, 16863, 16880 and 29 CFR 1910.1053(f)(1) *Engineering and work practice controls*.

[8] Id.

[9] 29 CFR 1910.1053(e)(4). (A "regulated area" is one where the employee is expected to be exposed to levels of airborne silica dust is, or can be expected to be, in excess of the PEL).

[10] 88 Fed. Reg. at 44853.

underground coal and hard rock mines. Best practices, strict adherence to ventilation and dust control plans and increased miner and operator awareness have all contributed to exponentially lowering dust levels in both surface and underground mines.[11]

a) Technological Feasibility

MSHA contends that engineering controls are technologically feasible and readily available, but this conclusion ignores the variability in sectors, locations, and types of actions that may contribute to elevated silica exposures. There may be certain locations or activities where established engineering controls are not feasible.

The availability and feasibility of engineering controls is different for each operation and its facilities, and those controls may not effectively control exposures to silica below the proposed PEL. As an example, retrofitting existing infrastructure with adequate ventilation controls may reduce exposures, but is not certain to meet the proposed PEL. Ventilation controls are effective for point source generation of contaminants, but when the source is an entire mill or crushing facility ventilation controls become less effective. Many mine facilities predate MSHA and retrofitting them with engineering controls will be very difficult if not impossible. Supply chain constraints (exacerbated by high demand from mining companies for specific equipment required to comply with proposed MSHA standards) lengthen project schedules and operational down time.

Another example provided by NMA members regarding the technological feasibility of engineering controls is for activities that take place outside in windy conditions (e.g., tailings deposition, maintenance, blasting). Mining companies should make every effort to implement engineering controls, but when those controls will still not be effective in meeting the proposed PEL, respirators and administrative controls – including shift rotations – must be allowed for use to reduce silica exposure.

[11] SME Annual Conference & Expo, Denver, Colorado, February 27, 2019. Assistant Secretary for Mine Safety and Health David Zatezalo provided statistics showing the number of MSHA and operator-collected coal dust samples proved that overexposures of the coal dust permissible exposure limit have exponentially decreased since 2000, that the average concentration of quartz in all samples taken in the coal sector since 2009 averaged 25.6 micrograms/m^3, and that the number of quartz overexposures in coal have decreased from 23.3% to 1.2% from 2000 – 2019. Available at https://www.msha.gov/sites/default/files/events/SME%20presentation%202-26-19.pdf.

Additionally, MSHA's proposal raises questions about what feasibility means in this context. For example, MSHA intends to require that operators install all 'feasible' engineering and administrative controls to achieve compliance with the PEL. Respirators are to be considered temporary until the controls reduce exposures to below the PEL. Since respirators are temporary, operators must continue to add engineering and administrative controls until compliance with the PEL is achieved, even if the controls are not feasible. The way the rule is written, when all 'feasible' controls are implemented, the operator will have to continue to install more controls if compliance with the PEL is not achieved and the use of respirators is temporary.

b) Economic Feasibility

MSHA also maintains that engineering controls are economically feasible. Again, this conclusion fails to factor in variability in sectors, operations and actions. Engineering controls need to be tailored to address site-specific conditions and not every engineering control will be economically feasible in all locations. The question of economic feasibility takes on heightened importance for small businesses. The NMA understands the Small Business Administration (SBA) Office of Advocacy plans to submit comments on MSHA's proposed rule. We urge MSHA to pay close attention to the SBA's recommendations for impacts to smaller mining companies and the communities that rely on those companies for high-wage jobs and contributions to the local economy.

2. Administrative Controls

MSHA proposes to allow the use of administrative controls only if supplementary protection is needed after implementation of engineering controls. Examples of administrative controls to reduce silica exposures provided by MSHA include:

- housekeeping procedures for miners to clean spills;
- procedures to handle contaminated clothing contaminants;
- proper work positions of miners; and
- walking around the outside of a dusty process area rather than walking through it.

The NMA agrees that administrative controls are an effective tool in addressing silica exposures. However, we disagree with MSHA's narrow view of administrative controls. As mentioned above, OSHA more broadly puts administrative controls on equal footing with engineering controls. Not only does MSHA require use of engineering controls to be exhausted before operators can resort to administrative controls, MSHA forbids the use of a

key administrative control allowed by OSHA – the rotation of miners. Despite generally defining administrative controls as "work practices that reduce the duration, frequency, or intensity of miners' exposures," MSHA specifically prohibits the rotation of miners. As explained below, the NMA disagrees with MSHA's position on job rotation.

a) Job Rotation

According to NIOSH, reduction of a worker's exposure to chemical carcinogens is the primary way to prevent occupational cancer.[12] Exposures to carcinogens should be kept to levels as low as reasonably achievable. Accordingly, one effective method to reduce individual exposure to silica is to allow for rotation of miners as an administrative control. Rotation of miners for specific high exposure tasks, along with engineering controls and respirators for that task will reduce individual exposures to lower levels than the use of engineering controls alone. An added benefit of rotation of miners in physically demanding tasks is a reduction of muscular skeletal disorders due to overuse. Prohibiting such rotations could, in effect, therefore increase risks of contracting a range of other occupational illness and injury. The prohibition of miner rotation to maintain compliance removes an administrative tool available in the hierarchy of controls and ultimately restricts a mine operator's ability to best protect its workforce. Furthermore, the operator rotation prohibition is contradictory to the operator's duty to sample what are considered "typical mining activities" as set forth §60.12(f) which may involve multiple tasks and task sharing.

b) MSHA Delays in Approving New Equipment to Reduce Exposures

MSHA delays in approving new equipment capable of reducing exposures further complicates efforts to improve miner safety. MSHA's approval procedures are unnecessarily bureaucratic, especially for technologies that have received approval or recognition from other expert entities domestically or globally. For example, MSHA mentions the use of clothes cleaning booths as an administrative control to remove dust from miners' clothes several times in the proposed rule. NIOSH, in conjunction with industry developed this technology. MSHA currently, however, requires a petition for modification[13] for an operator to adopt this technology – an unnecessary and

[12] *Current Intelligence Bulletin 68: NIOSH Chemical Carcinogen Policy* available at https://www.cdc.gov/niosh/docs/2017-100/pdf/2017-100.pdf?id=10.26616/NIOSHPUB2017100revised.

[13] *See* 30 C.F.R. 44, which sets forth MSHA's conditions for requesting a petition for modification. MSHA will grant a petition for modification if the agency determines that the

time-consuming step that delays the adoption of what even MSHA appears to accept as an effective technology.

Perhaps even more concerning are the delays in approvals related to PPE in coal mines. MSHA's proposed rule requires mine operators to take immediate action if sampling shows a miner's exposure exceeds the PEL. That immediate action includes making approved respirators available to affected miners before the start of the next work shift. Yet, MSHA's lengthy approval process can prevent underground coal mine operators from using one of the most effective means of protecting the miners, Powered Air Purifying Respirators (PAPRs). Although they are widely used in coal mines, operators must submit a formal petition for modification for each mine/area of mine and receive approval before use.

Existing MSHA records provide evidence of the extended approval process. For example, 18 petitions for modification to use PAPRs in underground coal mines were submitted between January 2021 and October 2022. The time to receive approvals ranged from 5-13 months with an overall average of 8.5 months per approval. Many if not all these PAPR's are designated as intrinsically safe units designed to operate in explosive atmospheres and are approved for use in the U.S. oil and gas sector along with underground coal mines in Australia.

The NMA recommends that MSHA finalize revisions to MSHA's 30 CFR part 18 on testing, evaluation, and approval requirements for electric motor-driven mine equipment and accessories intended for use in gassy mines that the agency proposed in 2020. [14] MSHA should expedite that rulemaking to address these delays and alleviate barriers that will provide miners with the best available equipment to protect their health and safety.

3. Personal Protective Equipment

a) Use of PPE for Compliance

As mentioned above, MSHA would require the use of respirators/PPE under certain circumstances to reduce silica exposure. Yet, in stark contrast with OSHA's rule, MSHA refuses to accept PPE for purposes of complying with the PEL, even when its use is the only known technological and economically feasible way to keep personal exposure below the limit. MSHA should follow

requested alternative provides miners at least the same level of protection as the existing standard.

[14] 85 Fed. Reg. 73656, (Nov. 19, 2020).

OSHA's precedent to allow the use of respirators as a compliance measure as OSHA does for 6 out of the 18 tasks noted on its Table 1.[15] Respirators, especially PAPRs, have been tested and meet NIOSH specifications and have been demonstrated to be protective against silica.

NIOSH recommends the use of respirators with N95 or better filters for airborne exposures to crystalline silica at concentrations less than or equal to 0.5mg/m3 (10 times the proposed PEL).[16] This demonstrates the effectiveness of respirators in addressing significantly worse conditions than the proposed PEL. Respirators, including PAPRs, are commonplace within mines and are an acceptable and feasible control for exposure to respirable crystalline silica.

The proposed standard should be amended to allow for NIOSH-approved respirators in accordance with 60.14 (c) to be used as a recognized control. The NMA proposes adding language similar to the OSHA lead standard 1910.1025(e)(2) to 60.14(a): *"(3) Where engineering and work practice controls do not reduce employee exposure to or below the 50 µg/m3 permissible exposure limit, the employer shall supplement these controls with respirators that are effective at bringing the air breathed below the PEL."* This approach appropriately recognizes there may be areas where current engineering or administrative control are not adequate to reduce exposures.

Such situations can be differentiated from unexpected exposures in areas where silica is normally below the PEL, which would trigger MSHA's requirement to make NIOSH-approved respirators available to affected miners before the start of the next work shift. In such cases, once overexposure has been confirmed by two or more samples, the operator should make the respiratory protection available as required but given additional time to conduct any needed medical evaluations, fit testing or training related to PPE if the overexposure proves persistent. As discussed below, it takes time and resources to meet the requirements of ASTM F3387-19 and operators properly focus these resources on areas that are expected to exceed the PEL.

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[15] 81 Fed. Reg. at 44853.

[16] NIOSH Policy Statement: Respiratory Protection Recommendations for Airborne Exposures to Crystalline Silica, July 2008 available at https://www.cdc.gov/niosh/docs/2008-140/pdfs/2008-140.pdf#:~:text=NIOSH%20recommends%20the%20use%20of%20half-facepiece%20particulate%20respirators,concentrations%20less%20than%20or%20equal%20to%200.5%20mg%2Fm3.

In 1995, MSHA, with the exception of gassy mines, transferred authority to approve air-purifying respirators to NIOSH.[17] As part of the transfer, MSHA retained [its], "existing provisions related to selection, use, and maintenance of respirators for coal and metal and nonmetal mines."[18] With the transfer, MSHA removed Part 11 from Title 30, Code of Federal Regulations (C.F.R.), which contained guidelines for testing and approving all types of respirators in mining operations, including those used in mine rescue operations. To facilitate the transfer and future approval and testing, MSHA and NIOSH entered into a memorandum of understanding. As such, 42 C.F.R. 84 then became the governing standard containing the application process and additional protocol for approving and certifying respiratory devices used in mining operations. As detailed in *§ 84.170 Air-purifying respirators; description* N95, N99, and N100 devices must demonstrate a minimum efficiency level of 95 percent, 99 percent, and 99.97 percent respectively.[19]

The NIOSH Pocket Guide to Chemical Hazards[20] is the expert's reference source for chemical and physical hazards used by industrial hygienists and other practitioners of occupational health services. The current edition of the Guide recommends N95, R95 and P95 respirators for crystalline silica (dust).[21] The Guide shows that a respirator with an assigned protection factor (APF) of 10[22] provides protection to individuals exposed to silica level of 0.5 milligrams per cubic meter of air time weighted average (TWA) (50 microgram per cubic meter); the N95 is classified as 10 APF. Mine operators and miners have a long history of consistent and effective use of N95 air-purifying respirators to protect miners' respiratory health. The NMA recommends MSHA revise the proposal rule as follows: *"§ 60.14(c)(1)(i) Respiratory protection requirements. (1) Affected miners shall be provided with a NIOSH-approved atmosphere-supplying respirator or NIOSH-approved air-purifying respirator equipped with the following: (i) Particulate protection classified as 100, 99, or 95 series under 42 CFR 84."*

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[17] Federal Register, Vol.60, No. 110, June 8, 1995, p 30398. *See also,* Supplementary Information Background available at https://www.govinfo.gov/content/pkg/FR-1995-06-08/html/95-13286.htm.

[18] Ibid.

[19] 42 CFR 84.170(a)(3)(iii) available at https://www.ecfr.gov/current/title-42/chapter-I/subchapter-G/part-84.

[20] The NIOSH Pocket Guide to Chemical Hazards available at https://www.cdc.gov/niosh/npg/npgd0684.html.

[21] Ibid.

[22] An APF of 10 means that a respirator is designed, tested, approved, and certified to reduce an airborne contaminant to one-tenth of the ambient concentration of the contaminant, which is a significant reduction in the surface nonmetal mining environment.

Providing respiratory protection for miners in occupations with the potential for high silica exposures adds another layer of protections for preventing pulmonary disease. The time to act is now. MSHA should not make the mistake of missing this opportunity to minimize miners' silica exposure with PPE and ensure compliance when other controls have been exhausted.

b) Requirements of ASTM F3387-19

Under the proposal, use of respirators must be done in accordance with the strict requirements prescribed by ASTM F3387-19, which include medical evaluations, training, and fit testing. These requirements are designed to ensure respirators do their job in protecting miners. It is nonsensical for MSHA to tout the importance of these requirements while failing to acknowledge the use of respirators for compliance purposes, especially given the significant burdens on operators in preparing for implementation. Meeting the ASTM requirements could take several days to several weeks to be totally prepared for the use of respirators as mandated. As such, the operator will most likely be forced to require everyone to get a medical evaluation and be fit tested to be prepared to use a respirator.

MSHA should specifically allow for the use of respirators, including PAPRs, for purposes of compliance with the rule. If the company states in its dust protection program that all miners working in areas likely to exceed the PEL will be medically capable of wearing respirators, fit tested and well-trained on their use, and wearing them in a manner that reduces actual silica exposure below the PEL, then that should be acceptable.

B. Sampling and Surveillance Program Concerns

Pointing to the pervasive nature of silica, MSHA proposes to impose broad and significant new medical surveillance requirements upon mine operators. As MSHA articulated, silica dust is generated in most mining activities, including cutting, sanding, drilling, crushing, grinding, sawing, scraping, jackhammering, excavating, and hauling materials that contain silica, and is found in all mines—underground and surface MNM and coal mines.[23] What the proposed rule does not address, however, is that exposure risk should drive sampling requirements and inclusion in the medical surveillance program.

OSHA's respirable silica rule implements a risk-based approach to both sampling and medical surveillance. One method OSHA adopts to ensure

[23] 88 Fed. Reg. at 44853.

focus is on miners facing significant exposures is its recognition and utilization of similar exposure groups (SEGs). The SEG approach is an accepted industrial hygiene practice that allows categorization of individuals who may be at risk for exposure and those who are not at risk.[24] OSHA specifically allows SEGs to be used when conducting baseline sampling. Additionally, OSHA uses SEGs to categorize job positions or tasks that, when prescriptive engineering controls are in place, are consistently effective at protecting the worker below the AL. A risk-based approach has the added advantage of reducing costs, particularly the cost of over sampling.

1. Massive Increase in Scope of Surveillance Program

The proposed rule would also include requirements for all MNM operators to provide medical surveillance in the form of a medical examination regime similar to what coal miners already receive. As such, the medical surveillance requirements would be extended to incorporate potentially 200,000 MNM miners at more than 11,000 mines. Such a massive expansion of these requirements will stress the capabilities of service providers and accredited laboratories to conduct the examinations, evaluate samples and interpret results. It will also impose significant costs on NMA's members. For example, one NMA MNM member estimated that sampling costs will increase $1.2 million to meet the silica sampling requirements of the proposed rule for its estimated 7000 employees. The same member indicated the total amount to retrofit all underground and surface mobile equipment with filtered pressurized air, medical surveys and increased sampling is $22.7 million for the first year, and $13.6 million each year after. Such numbers demonstrate MSHA's failure to accurately estimate the costs of compliance.

2. Failure to Tie Surveillance to Exposure Risk

OSHA's 2016 Silica Rule standard, as well as other standards OSHA has established (i.e., beryllium and lead) that include medical surveillance tie medical surveillance to exposure risk. For example, for most impacted industries, OSHA's 2016 Silica Rule requires the employer to conduct medical surveillance and sampling only of employees who are, or may be reasonably expected to be, exposed to respirable silica *at or above the action level* for 30 or more days a year.[25] This is consistent with sound science and is significantly more manageable than requiring medical evaluations for all miners regardless of identified exposure risk levels.

[24] The American Industrial Hygiene Association's Strategy for Assessing and Managing Occupational Exposures outlines these accepted best practices.
[25] 29 CFR 1910.1053(i)(1)(i).

Unlike OSHA, MSHA's proposed rule requires baseline sampling to be completed for any miner who is reasonably expected to be exposed to respirable silica *at any level*[26] and includes all new miners in the medical surveillance program. OSHA's focus on the risk not only is consistent with accepted industrial hygienist practice but also ensures that MSHA's and operators' resources are focused on the greatest hazards and appropriately accounts for growing medical personnel and laboratory capacity.

3. Sampling Issues and Frequencies

The objective of sampling should be to determine the level of anticipated exposure for each role/SEG. Once the representative samples have been taken, ongoing sampling should be done periodically to monitor for changes or resampling should be done if significant changes in process/equipment occur. As explained below, however, the NMA has concerns about MSHA's proposed approach to sampling and resampling.

a) Error Factor for Gravimetric Dust Sampling Devices

An Error Factor should be applied to the 50 µg/m^3 PEL and the 25 µg/m^3 AL to account for sampling and analytical weighing errors when collecting respirable samples with a Coal Mine Dust Personal Sampler Unit (CMDPSU). Such errors cause individual concentration measurements to deviate above or below the true concentration value in the mine atmosphere. Therefore, when determining noncompliance, MSHA must ensure that the standard has actually been exceeded. The proposed silica rule, like the 2014 Respirable Coal Dust rule, should provide for a margin of error in each measurement to reduce the risk of alleging that a mine operator is in noncompliance when the applicable standard may not have been exceeded. The application of the error factor would provide for this margin of error. The error factor for the applicable silica standard should be similar to the rationale associated with the development and implementation of the Excessive Concentration Value Table 70-1 included in Appendix A of the 2014 Coal Dust Rule.[27]

Additionally, MSHA should factor in that many minerals interfere with the lab analysis for silica content. OSHA has established a fully validated silica analytical method that lists 18 different mineral types that will interfere with

[26] 88 Fed. Reg. at 44906.
[27] 79 Fed. Reg at 24969.

the analytical peaks when analyzing the amount of silica collected during sampling that can erroneously elevate the amount of silica on a sample.[28] By erroneously elevating the silica result, mine operators face the potential of exceeding the AL and/or PEL, requiring they spend additional resources on controls, sampling etc. to lower dust levels on low-risk exposure groups, when those resources should be spent on higher risk exposure groups.

b) Sampling Required Within Three Months if AL is Exceeded

MSHA proposes that mine operators conduct periodic sampling within three months where the most recent sampling indicates miner exposures are at or above the proposed AL but at or below the proposed PEL. Specifically, MSHA requires operators to continue to sample within three months of the previous sampling until two consecutive samplings indicate that miner exposures are below the AL. While OSHA's 2016 Silica Rule has a similar requirement, periodic sampling is required only every 6 months. With the inclusion of an AL in the proposal, sampling within three months is not necessary. MSHA has miscalculated the burdens related to the "within-three-months" sampling requirement, particularly for smaller operators that are more likely going to need to rent pumps. Renting pumps, collecting samples, calibrating pumps, recording data, conducting quality assurance of data samples, sending to the lab for analysis and awaiting lab results may not be technologically or economically feasible within that timeframe.

However, for miners that are in roles that are likely always above the AL, rather than an endless cycle of resampling, the focus should be on the use of PAPRs or respiratory protection to help mitigate the impacts of dust. MSHA needs to recognize that taking hundreds of samples and then resampling does not lower the dust levels nor does it protect miners. Focus on reducing personal exposures should be paramount to confirming exposures that are already known. Such an approach better protects workers and more appropriately allocates industry and MSHA resources.

c) Semiannual Evaluations

MSHA is proposing that mine operators conduct semi-annual evaluations to evaluate whether any changes in production, processes, engineering controls, personnel, administrative controls, or other factors may reasonably be expected to result in new or increased exposures. OSHA's 2016 Silica

[28] *See* OSHA ID142 Table B.1 available at https://www.osha.gov/sites/default/files/methods/osha-id142.pdf.

Rule has an annual requirement of reviewing the adequacy of the written exposure control plans. But additionally, OSHA requires "the employer shall reassess exposures whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional exposures at or above the action level, or when the employer has any reason to believe that new or additional exposures at or above the action level have occurred."[29] Rather than following OSHA's lead, MSHA has doubled up OSHA's requirements with a quantitative and qualitative obligation. Only if production or processes change, would an evaluation be warranted during the six-month period.

d) Need for Continued Focus on Improving Silica Sampling Technologies

When the 2014 Coal Dust Rule was promulgated, implementation was facilitated with the development and adoption of personal dust monitoring devices with real time analysis. Unfortunately, there is not yet an equivalent device for silica. The NMA hopes that in time, with appropriate focus from the industry, NIOSH, MSHA and equipment manufacturers, such a device will be developed at some time in the future.

In the meantime, MSHA and industry should evaluate if real time monitors could be used to "estimate" silica levels and identify elevated dust exposures. From a practical stance and helping reduce the impact on peoples' lungs these monitors could be used for the "action level" above which respirators are needed (or work to stop and other controls put in place to lower the levels).[30] Not all exposure is consistent and if MSHA and industry focus on protecting workers during higher concentrations, we will greatly reduce the impact on them over time. This would drive at the core of the issue – real time monitoring, real time response and appropriate protection. Personal breathing zones make sense to measure individual exposures, area samples make sense to understand the ambient concentration in an area, while personal pump mounted samples give a reasonable idea of personal exposure but do not factor in respirators.

4. Availability of Service Providers and Accredited Laboratories

[29] 81 Fed. Reg. at 16863.
[30] *See* Silica Detection - Silica Dust Detection | Applied Particle Technology.

a) B Readers

MSHA would require all medical examinations (MNM and coal) to include a chest X-ray classified by a NIOSH-certified B Reader, in accordance with the Guidelines for the Use of the International Labour Office (ILO) International Classification of Radiographs of Pneumoconiosis. In the proposal, 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. Furthermore, MSHA dismisses concerns about access to B Readers for remote mining operations by pointing to the capability for electronic submission of digital x-rays.

MSHA does not acknowledge the fact that there are only a limited number of B Readers across the U.S. According to the Center for Disease Control website, as of May 2023, there were only 189 physicians from inside the United States who have demonstrated competence in applying the ILO classification by successfully completing the NIOSH B Reader examination within the last 4 years.[31] MSHA contends the number of certifications will rise as demand grows with the promulgation of the new silica rule but provides no support for this contention. Regardless, the growth may not be in time to accommodate the new entries to the medical surveillance program.

b) NIOSH-Approved Facilities

MSHA requests comments on whether MNM operators should be required to use NIOSH-approved facilities for medical examinations. Such requirements are already in place for coal because NIOSH administers medical surveillance for coal miners. As mentioned above, it may be very difficult to even find the required NIOSH-approved spirometry technicians. Forcing all medical exams to be performed only in NIOSH-approved facilities place hardships on many MNM operators that are located far from existing NIOSH facilities. The list of NIOSH-approved facilities for medical examinations identifies only 151 facilities credentialed to do chest X-rays. These facilities exist only in 23 states. No such facilities have been identified by NIOSH in the remaining 27 states.

Even with the expansion of mobile laboratories, there will not be sufficient capacity within reasonable proximity of many remote MNM mine sites to support the mandatory use of NIOSH-approved facilities. For example, in

[31] List available on CDC website at https://wwwn.cdc.gov/niosh-rhd/cwhsp/ReaderList.aspx?formid=USReaders&lastname=&state=&sortkey=state&format=table&btnSubmit_US=Submit.

one state with significant MNM mining operations there is only one NIOSH-approved facility for radiographs and the closest NIOSH-approved facility for spirometry is 582 miles (and two states) from the largest city in the state. The proposed rule would require current miners to travel, in many cases, hundreds of miles for their appointments, which will have a significant adverse impact on recruitment, retention and productivity of affected mine workers. Mobile health units are not a viable option for the rate of new hires some companies are currently managing; fixed locations are the ideal option. It is likely that existing NIOSH-approved facilities will not be able to accommodate the high number of new MNM miners and keep up with new hire exams within the 30-day proposed window for initial exams. We recommend MNM mining companies continue to be allowed to use contracted physicians or other licensed health care professionals (PLHCPs) that maintain current spirometry certificates from NIOSH-approved spirometry courses, even if these PLHCPs may not be NIOSH-approved facilities.

c) Availability of Sampling Technology and Lab Capacity

In the proposal, MSHA indicates it has preliminarily determined that technology is commercially available to conduct required sampling and analysis. Based on MSHA assessment of how many samples will need to be analyzed, labs may not be able to handle the increase in sampling demand. MSHA's good faith conclusions that labs will be able to increase capacity is premised on its likely significant underestimation of the number of samples that will need to be analyzed. This sampling requires more than handing out a sampling pump for a full shift sample then collecting it at the end of the day. If the results are above the AL and/or the PEL, they are worthless without observation of what occurred during the sampling. Therefore, all sampling will need to be monitored for typical activity and MSHA does include these resources in its Regulatory Impact Analysis. Depending on the interpretation of everyone that "is or may be reasonably expected to be exposed to respirable crystalline silica," there could be hundreds of samples needed to be taken for baseline sampling, but the mines currently do not have the equipment or personnel to get this much sampling within the established timeframe.

Regarding availability of sampling technology, the NMA encourages MSHA to further clarify that any sampling technology that meets the characteristics for respirable-particle-size-selective samplers that conform to the ISO 7708:1995 standard is acceptable. MSHA's proposal specifically mentions only cyclones and elutriators, perhaps implying that only those two types of samplers are suitable for use. As SKC Inc. explained to MSHA, other

samplers meet the required characteristics including SKC's impactor-based parallel particle impactor sampler.[32]

5. Occupational Versus Personal Sampling

Similar to the OSHA 2016 Silica Rule, the proposed rule requires personal breathing-zone air samples to evaluate the PEL for MNM operations. This approach makes sense as often miners do not perform the same job function for the entire shift. For example, they may run a loader for a few hours, then shotcrete or hang utilities the rest of the shift. In order to get a representative sample, the sampling should be personal sampling.

For coal operations, however, occupational environmental samples are taken to evaluate exposure. This method penalizes coal operations and makes it more difficult to maintain compliance with the PEL. Essentially, MNM operations will measure the exposure of an employee during "typical mining activity" for a worker but coal operations will measure the exposure of one or more employees performing a "job classification" over the course of a shift. The occupational sampling method prescribed for coal operators does not ensure that "no miner is exposed" to silica levels above the PEL for a full shift when the samples may measure several miners performing a job classification during the shift. The NMA believes that personal sampling is the superior method for evaluating exposure and protecting individual miners.

6. Eight Hour Average Shift Length

The NMA's primary concern with MSHA's proposed approach to shift length is the concentration for a sample gathered over an extended shift is calculated as if it were collected during an eight-hour period. The majority of NMA's producing members utilize 9–10-hour work shifts. Using an eight-hour shift to calculate the concentration based on 9-10-hours of sampling is not appropriate. For every hour over 8 hours, the PEL is reduced by 6.25 $\mu g/m^3$ so a 10-hour shift translates to a PEL that is approximately 40 micrograms and an AL that is approximately 20 micrograms. MSHA has justified the lowering of the PEL on the basis that stopping the sampling after eight hours does not give a true reflection of the worker's exposure, but neither does the artificial construction of a sample that is deliberately enhanced and unrepresentative of an eight-hour period. [33] The most straightforward

[32] *See* SKC's July 28, 2023 letter to MSHA available at https://arlweb.msha.gov/REGS/Comments/2023-1219/AB36-COMM-67-1.pdf.
[33] 88 Fed. Reg. at 44903.

solution to appropriately account for shift length is to use the actual minutes or entire duration worked. This is the current construct for coal mines, as MSHA explains when discussing differences between the calculations for coal and MNM.[34] Additionally, this approach is more consistent with NIOSH's REL, which is 50 ug/m3, but calculated to a 10-hour shift.

If MSHA does not adopt an approach based on the entire duration worked, alternatively MSHA should use OSHA's standard of an 8-hr TWA since its preliminary risk analysis specifically relies on the risk models that OSHA used in support of its 2016 Silica Rule. The full-shift requirement is the way MSHA has always calculated it for MNM but that does not make it right for MNM or coal operators. If MSHA is unwilling to accept the 8-hour TWA as OSHA did, then MSHA needs to consider the use of respirators as a supplemental control measure as did OSHA. Please also see section II.D.3 of these comments for some coal specific concerns related to MSHA's approach to shift samples.

C. Vagueness of Key Terms and Action Criteria

1. Terms Needing Additional Clarification

a) *"Reasonably Be Expected" Threshold for Baseline Sampling*

The proposal requires operators to perform baseline sampling within 180 days after the rule becomes effective to assess the silica exposure of each miner who is or may "reasonably be expected" to be exposed to respirable crystalline silica. The "reasonably be expected" threshold needs to be quantified as even the general public would meet a "reasonably be expected" threshold unless a target level is identified.[35] As MSHA acknowledges in the proposal, quartz comprises 12 percent of the earth's crust and that the overwhelming majority of naturally occurring crystalline silica is quartz.[36] Given the ubiquitous nature of crystalline silica, the NMA proposes that this threshold should be the same AL as the OSHA 2016 Silica Rule. Acceptable

[34] *See* 88 Fed. Reg. at 44863.

$$(Coal)\ Extended\ full\text{-}shift\ TWA = \frac{Total\ weight\ of\ contaminant\ (\mu g)\ collected\ over\ the\ full\ shift}{Flow\ rate\ (LPM)\ x\ Entire\ duration\ of\ the\ full\ shift\ (mins)\ x\ 0.001\ m^3/L}$$

$$(MNM)\ Shift\ Weighted\ Average = \frac{Total\ weight\ of\ contaminant\ (\mu g)\ collected\ over\ the\ full\ shift}{Flow\ rate\ (LPM)\ x\ 480\ mins\ x\ 0.001\ m^3/L}$$

[35] U.S. Environmental Protection Agency, Ambient Levels and Noncancer Health Effects of Inhaled Crystalline and Amorphous Silica: Health Issue Assessment, EPA/600/R-95/115, Nov. 1996.

[36] 88 Fed. Reg. at 44859.

language would read: *"60.12 (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 each miner reasonably expected to be exposed to respirable crystalline silica at or above the AL."*

b) "Typical Mining Activities" for Sampling Purposes

MSHA proposes to require mine operators to collect a respirable dust sample for the duration of a miner's regular full shift and during typical mining activities. MSHA requests comments on this requirement and whether to specify environmental/weather conditions under which samples should be taken to ensure that samples accurately reflect actual levels of respirable crystalline silica exposure. The proposal indicates that in MSHA's experience, environmental conditions such as precipitation (*e.g.,* rain or snow) or wind could affect the actual levels of respirable crystalline silica exposure at miners' normal or regular workplaces throughout their typical workday.

For coal operations, the NMA suggests additional clarification on whether the existing provisions in parts 70 and 71 regarding normal mining activities and normal production shifts will predetermine typical mining activities for the purpose of the silica rule. Otherwise, more broadly the NMA believes MSHA should not predetermine or prescribe what constitutes typical conditions. Mine operators are best situated to determine typical conditions. For example, mine operators understand better than MSHA what are typical weather conditions. Rain, snow, and wind can be present in a miner's regular full shift during typical mining activities and thus represent typical exposures. Dictating weather conditions for sampling is not a viable option as some mines operate in areas where rain, snow and wind are commonplace and requiring sampling events to be taken in their absence is not feasible. Furthermore, the timeline for sampling is already aggressive and requiring operators to void samples because of an afternoon rain, snow or windstorm is unrealistic.

2. Triggers for Receipt of Citation

Parts 70, 71, and 90 all define when noncompliance occurs for the operator sampling program. The proposed rule does not define if and when a citation would be issued if a sample indicates an overexposure, whether MSHA or operator. Part 72 also defines that MSHA can issue a citation for respirable dust based on a single sample. Will MSHA also use the result of a single shift sample to issue a citation? Baseline and periodic sampling all require multiple samples below the action level to ensure the levels are actually

below the PEL therefore multiple samples above the PEL should be required to definitively determine levels are actually above the PEL. A sampling and citation flow chart similar to the one used for Part 62 should be developed to further define actions required for both operators and MSHA.[37] There are many scenarios that could create confusion, for instance if an operator has completed sampling an occupation and all samples are below the action level, then MSHA comes in and takes a sample that is over the PEL, is a citation warranted if all previous sampling was below the action level? Once a citation is issued, what is required to gain compliance and have the citation terminated. Once again Parts 70, 71, and 90 all define this scenario but there is no guidance in the proposed rule. Also, unlike OSHA which tolls abatement until the citation has been proven or a settlement between the parties reached, MSHA does not provide for a process to challenge before abatement, no matter how unreasonable or unproven the abatement.

After the final rule is complete, establishment of a joint silica working group would be an effective means for MSHA and mine operators to develop a guidance document with questions, concerns and responses that would be made available to the mining community. This approach was a successful feature used by MSHA and mine operators for complying with the Respirable Coal Dust rule in 2014. As one NMA member recently noted, the questions and answers that were developed out of the coal dust group have been an invaluable compliance resource for the industry.

3. Flow Chart to Show Steps for Action from Exceedance of Action Level to Demonstrating Achievement of Compliance

A sampling and citation flow chart similar to the one used for Part 62 should be developed to further define actions required for both operators and MSHA.

Table 70-1 provides a statistical number that ensures to MSHA, the miner and the operator that the respirable dust level measured is greater than the applicable dust standard with 100 percent accuracy. The OSHA general and construction regulations also uses a TWA_8 and all samples taken are of the workers' personal breathing zone. That is the same methodology proposed to be used for MNM but not for coal. It is proposed that coal utilize the same

[37] The MSHA Health Handbook PH20-V-4 (available at https://arlweb.msha.gov/READROOM/HANDBOOK/PH20-V-4.pdf) chapter 3 addresses part 62 on the noise Action Level (Dose) Results and enforcement with flow charts. The same approach for sampling and enforcement should be included in MSHA guidance documents to address the (CSR). Mine operators need clear guidance to ensure compliance and the action they must take to address non-compliance.

TWA_8 but then must take samples of occupations and measure the environment that several workers are exposed to and not the personal breathing zone measuring a miners' personal exposure. Thus, if MSHA is not willing to take personal samples in coal, then a Table 70-1 should be developed for coal that calculates the silica exposure levels allowed in an area taking into account the fact that the environment several workers are in versus personal breathing zones. The proposed rule strictly prohibits the use of worker rotation as a means to comply with the PEL. That component is built in to the coal sampling methodology but essentially allows it for all other industries simply by acknowledging there may be several miners performing the same task and then taking personal breathing samples. The prohibition of miner rotation restricts the operator's ability to best protect its workforce.

4. Application of Rule to Contractors

The proposed rule does not specifically address the use of contractors and their role and responsibilities in sampling and compliance. If a contract miner being sampled is a member of a crew made up primarily of production workers, the application of the rule may be straightforward. However, if the contractor is performing independent work on site, such as drilling, the independent work is not addressed in either the proposed rule or the preamble.

D. Issues Specific to Coal Mines

1. Deletion of 30 C.F.R. §§70.101 and 71.101

The NMA supports MSHA's proposed deletion of § 70.101 and § 71.101 as no longer needed because MSHA is proposing an independent respirable crystalline silica standard in part 60.

2. Competing Sampling Flow Rates

The proposed silica sampling regulations and procedures should address the differences in the products mined in the respective industries, while holding the entire mining industry to the higher standards set forth in the proposed silica rule. As mentioned above, MSHA has existing regulatory frameworks applicable to coal and MNM operations that include separate dust sampling parameters for each. These frameworks should be preserved by MSHA. As such, MSHA should retain the 2.0 L/min flow rate for the coal mine dust personal sampler unit (CMDPSU) (gravimetric) sampling device as clearly

stated in 30 CFR § 70.204(b). The training provided to persons certified in respirable dust sampling and/or maintenance and calibration of the sampling devices includes the calibration of the 2.0 L/min flow rate for the CMDPSU sampling device. Creating two different flow rates for the same sampling device would cause confusion in collecting coal dust samples compared to silica samples.

The value of reviewing sampling trends and historical data related to the mining operation is a critical part of addressing unacceptable levels of respirable dust. The historical data associated with silica collected over many years by both MSHA and the mine operator is based on maintaining a flow rate of 2.0 L/min throughout the entire length of the shift. To change the flow rate to the proposed 1.7 L/min would jeopardize the validity of any comparisons made between the newly collected samples to the samples previously collected at a flow rate of 2.0 L/min.

In addition to the points raised above regarding consistency with existing dust sampling requirements, forcing coal mine operators to adopt the metal/nonmental flow rate of 1.7 liters per minute would adversely affect MSHA as well. Currently, MSHA inspectors can sample for respirable coal dust and silica at the same time using gravimetric samplers calibrated to a flow rate of 2.0 L/min. Because the proposed silica rule would allow the mine operator to use an MSHA sample during their baseline sampling protocol, MSHA would likewise be required to sample silica at 1.7 liters per minute. However, that flow rate would not adequately capture MSHA's respirable coal dust quarterly sampling for verification of the coal mine operator's approved mine ventilation plan. Meaning, MSHA would have to sample a second time at 2.0 L/min to complete their quarterly coal dust sampling requirement. This would place an unnecessary burden on agency inspectors to duplicate their work with regard to dust sampling and would effectively limit their ability to carry out other aspects of their job responsibilities. Additionally, the second round of MSHA sampling each quarter would interrupt the coal mine operators' quarterly sampling mandate of each mechanized mining unit.

3. Full Shift Sampling

In the 2014 Respirable Coal Dust rule, MSHA previously acknowledged that a full-shift TWA was an appropriate method to properly measure the exposure of miners to respirable coal dust. Conversely, the proposed silica rule relies on conclusory statements ungrounded in objective data to now say that a uniform TWA of 8 hours is the best method to calculate exposure. Changing the methodology for the coal industry's calculation of the TWA flies in the

face of MSHA's stated benefit of making the calculation method "straightforward" and "easier to understand". That goal would be best accomplished by allowing the coal sector to continue to sample in a manner consistent with its respective, long-standing laws and procedures in which the miners have been trained.

E. Implementation Issues

The NMA recognizes the importance of acting as expeditiously as possible to protect the miners' health but a new evaluation method requiring different equipment, more personnel, additional sampling and different sampling methodologies cannot be fully and properly implemented within the proposed timeframe. The NMA strongly urges a longer, phased-in implementation timeframe for the silica standard similar to OSHA's approach in the 2016 Silica Rule and MSHA's in promulgating the 2014 Coal Dust Rule. When OSHA issued its respirable silica standards, the agency allowed for an extended and phased-in two-year period for general compliance with all provisions except medical surveillance, which was based on exposure level. OSHA gave more time for industry to comply with the medical surveillance provision. Similarly, MSHA's respirable coal mine dust rule allowed for a phased approach and an 18-month implementation period for a revised monitoring and sampling program, with the reduced standard effective 24 months after the effective date.

The proposed 120 days is insufficient for a number of reasons and will impose unnecessary burdens on both industry and MSHA. The timeframe will not allow companies the time to conduct the appropriate analysis of how and whether new/revised engineering controls will be effective to reduce exposures. Nor will it give MSHA the time to prepare comprehensive implementation and guidance documents to ensure the industry understands how to comply and that MSHA staff understand how to enforce.

Furthermore, as discussed above, MHSA's proposed timeframe fails to recognize potential constraints on rental equipment, medical professionals, imaging technology, and pulmonary function testing technology, especially at geographically remote locations. Similarly, MSHA ignores the difficulty in conducting baseline sampling within the first 180 days after the rule takes effect, as there may not be sufficient equipment of personnel to conduct the potentially hundreds of samples that need to be taken. Finally, the timeframe ignores the continuing and in some cases, escalating post-pandemic supply chain issues. Operators are finding long lead times in procuring critical infrastructure items including those that are essential for mandatory health and safety requirements.

III. Specific Comments/Questions Asked by MSHA

A. Questions 4 & 5 on Technological Feasibility

See sections II.A.1.a), II.A.3, II.B.3 and II.C.1.

B. Question 6 on Costs and Benefits

See section II.B.

C. Question 7 on Regulatory Alternatives

As noted above, the NMA believes MSHA should adopt OSHA's risk-based approach to sampling and evaluation requirements. To the extent MSHA fails to implement that approach, the NMA believes that Regulatory Alternative 1, which provides changes to the sampling and evaluation requirements, is a more appropriate regulatory approach than that which is provided for in the proposed rule. The NMA supports the 50 $\mu g/m^3$ PEL, which would remain unchanged in alternative 1 along with the alternative's requirement for baseline sampling for those miners whose exposure to respirable crystalline silica is at or above the proposed AL of 25 $\mu g/m^3$ in lieu of the requirement for baseline sampling of "each miner who is or may reasonable be expected to be exposed to respirable crystalline silica" of any level. As well, the periodic sampling requirement of twice per year for miners between the AL and the PEL proposed in alternative 1 is more in line with established industrial hygiene guidelines and will allow the mine operator to allocate industrial hygiene resources to those areas where they are better used, including areas where there is higher risk of exposure at or above the PEL. Finally, the alternative requires an annual evaluation of mine processes or conditions that would reasonably be expected to result in new or increased exposures instead of the current semi-annual review proposed in the rule. Given that mining processes and conditions are relatively stable and non-changing, the requirement for an annual evaluation provides an equal amount of protection to miners while lowering the costs of compliance for mine operators.

D. Question 8 on Small Business

See sections II.A.1.b) and II.B.3.

E. Question 10 on Effective Date [Addressed in section II.E]

See Section II. E.

F. Question 11 on Action Level and Its Costs

See Section II.B.

G. Question 12 on Use of Objective Data to Support Baseline Sampling

The proposed rule lists sources for objective data that can supplement baseline sampling and be used to comply with the exposure monitoring provision. The NMA supports including these alternative methods to achieve compliance with baseline and other types of sampling. Many members implement existing monitoring programs using this valuable data which has helped the industry understand where overexposures are and where PPE may be necessary. Currently, as the proposed rule reads, only internal monitoring conducted within the last 12 months meets the definition of objective data. The NMA supports the use of past monitoring results beyond 12 months conducted by operators and also supports the use of objective data from industry-wide surveys to assist operators in complying with the baseline sampling requirements.

H. Question 13 on Elimination of Reduced Standard for Respirable Dust When Quartz is Present at Coal Mine

See Section II.D.1.

I. Question 14 on Action Level Triggers

See section II.B.2.
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J. Question 15 on Proposed Rotation of Miners

See section II.A.2.a).

K. Question 16 on Engineering and Administrative Controls [Addressed in II.A.]

See sections II.A.1 and 2.

L. Question 18 on Typical Mining Activities

See section II.C.1.b).

M. Question 20 on Performance of Baseline Sampling within 180 Days

See answer to question 12 above in section III.F.

N. Question 21 on Timing of Semi-annual Evaluation Requirements

See section II.B.3.c).

O. Question 22 on "Reasonably Be Expected" Threshold

See section II.C.1.a).

P. Question 23 on Elimination of Periodic Sampling if Exposures below Action Level

OSHA has a similar requirement and in theory and in practice this makes sense that two samples should confirm lack of exposure.

Q. Question 24 on 3-month Sampling Requirement if Action Levels are Exceeded

See section II.B.3.b).

R. Question 26 on Requirement for Timing of Semi-annual Evaluation Requirements

See section II.B.3.c).

S. Question 27 on Personal or Occupational Sampling

See section II.B.5.

T. Question 28 on Use of Representative Sampling

See section II.B.

U. Question 33 on Requiring MNM to Use NIOSH Approved Facilities for Medical Evaluations

See section II.B.4.b).

V. Question 34 on Diagnostic Technology for MNM Surveillance

The existing technology works and does not need to be changed. If MSHA does decide to require new diagnostic technology, then this will place OSHA in an awkward position. Also, the cost would be much higher and MSHA does not include these additional costs in its analysis.

W. Question 37 on Temporary Use of Respirators

See section II.A.3.

X. Questions 38 and 39 on Flexibility in Selection of ASTM F3387-19 Elements

See section II.A.3.b.).

Y. Question 42 on Elimination of Reduced Coal Dust Standard

See section II.D.1.

IV. Conclusion

In conclusion, the NMA supports the lowered 50 µg/m3 PEL. To achieve the PEL, we support the comprehensive use of the hierarchy of controls such as technologically feasible engineering controls as well as effective administrative controls, including job rotation. At the same time, however, the NMA recognizes that there are times and places where use of PPE is the best way to protect miners when other measures have proven unable to reduce personal exposure below the PEL. MSHA should recognize PPE for compliance purposes in such circumstances as do other expert agencies including OSHA. A risk-based approach to protecting miners is the right path

forward – from the use of PPE – to a risk-based approach to sampling and medical surveillance.

While the NMA supports the PEL, we do have concerns about how the PEL will be implemented, particularly the timeframe for compliance. The proposed timeframe is unreasonably short and does not factor in the complexities of the new requirements, especially related to baseline sampling, availability of equipment, access to professionals, supply chain constraints and time needed to develop necessary guidance documents.

The NMA stands ready to partner with MSHA to protect our workforce from overexposures to silica. In response to the examples of fraudulent sampling mentioned at the public hearings, we note the industry's support for MSHA's robust framework that allows thorough investigations, penalties and even jail time for any substantiated allegations.

Sincerely,

Paul Krivokuca