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S. Aromie Noe, Director
Office of Standards, Regulations, and Variances
Mine Safety and Health Administration (MSHA)
201 12th Street South
Suite 4E401
Arlington, Virginia 22202-5450

Re: RIN 1219-AB36; Docket No: MSHA-2023-0001

Dear Director Noe:

The Arizona Mining Association (AMA) respectfully requests your consideration for specific questions, concerns, and comments regarding MSHA's proposed RIN 1219-AB36, *Lowering Miners' Exposure: respirable Crystalline Silica and Improving Respiratory Protection*, As published in the Federal Register on July 13, 2023.

The AMA is a non-profit corporation comprised of entities engaged in mining and mineral processing in Arizona. In 2022, AMA member companies produced approximately 74% of the nation's newly mined copper, along with significant amounts of associated valuable co-products (e.g., gold, silver, selenium, tellurium, and molybdenum). Arizona's hard rock mining industry employs approximately 13,645 people directly which supported an additional 47,262 indirectly and has an estimated direct and indirect impact on the Arizona economy of nearly $14.2 billion. The AMA is the unified voice of responsible, sustainable, and safe mining in Arizona. Through our advocacy, we help Arizona continue to be a premier location for mining investment in the U.S.

The AMA and its members are committed to safe production practices throughout Arizona and supports the concept of reducing exposure for respirable crystalline silica, however there are sections in the proposed standard that must be reviewed and amended to allow the mining industry to be successful with these changes. Specific sections of the proposed standard with comments are listed below:

- **Section 13: MSHA is proposing a Permissible Exposure Limit (PEL) for respirable crystalline silica of 50 micrograms per cubic meter for a full shift exposure calculated as an 8-hour TWA.**

  - The newly proposed limit comes from the OSHA (Occupational Safety and Health Administration) limit of 50 micrograms per cubic meter. OSHA regulated sites are very different from the mines in scale, exposure, and environment. Road construction and concrete cutting are two examples of where personnel may be exposed to silica under OSHA. Both are very

manageable with application of water and overall exposure to personnel, whereas a mine may have a very large footprint and limited options for controls. Simply duplicating the OSHA standard to fit MSHA when the application and exposures are completely different doesn't set the mining industry up for success to keep mines in operation and employees protected. Implementing a phased reduction based on currently available technology is a more realistic approach. Allowing the mines to continue to use respiratory protection programs if other feasible alternatives have been exhausted may also be an option. If mines struggle to meet the current limit, decreasing the proposed limit by 50% isn't likely to succeed.

- In the data provided pertaining to pneumoconiosis related deaths, the CDC cites (*CDC Morbidity and Mortality Pneumoconiosis Trends 1999-2018*) that the largest decrease was in the mining (coal) industry with a decrease of 69.9% and the largest increase is in the OSHA construction sector. Is there any data that specifically supports more stringent dust standards in the mining industry if the data shows a decline in deaths?
- In addition to the data provided by the CDC, there is little understanding of where the Pneumoconiosis cases were developed. What percentage of cases were specifically due to mining related employment compared to extracurricular activities (where measures such as engineering controls, personal protective equipment, and strict compliance to standards is very lax by comparison). The CDC states (*Page 3- Morbidity and Mortality Pneumoconiosis Trends 1999-2018*): "Death records were not validated by medical records; therefore, results might be subject to misclassification. Second, some silicosis-associated deaths might not be work-related."
- For many underground mines, reducing exposure to Diesel Particulate Matter (DPM) is a high priority. Many of the measures that allow for control of DPM include increasing ventilation through air exchanges. This increase in ventilation also comes with an increase in dust from creating dry conditions. Effectively lowering DPM exposure through engineering controls directly counteracts the efforts to reduce dust. While both are necessary, the means to implement both effectively in the mines across Arizona and the United States is not well understood based on current technology. More consideration related to controls and challenges of implementation must be given by MSHA.

- **Section 38: MSHA proposes to Incorporate *ASTM F3387-19 – Standard Practice for Respiratory Protection* for program administration, standard operating procedures, medical evaluations, and respirator selection, training, and fit testing.**
  - Mines must be allowed to establish exposure programs based on "Similar Exposure Groups" (SEG) that are well understood at each mine and based on factual sampling data. These SEGs can vary greatly depending on the area of the mine as well as job title and associated tasks. Simply viewing all miners' exposure as the same will result in large cost increases and wasted resources that could be better utilized for silica hazard mitigation through engineering controls.

- **Section 60.12 – Exposure Monitoring**
  - This section of the proposed standard discusses requirements for industrial hygiene exposure monitoring. In proposed paragraph (a)(1), mine operators would only be required to sample those miners the operator knows or reasonably expects to be exposed to respirable crystalline silica. The increase in personnel that would reasonably be expected to be added into the respiratory protection program could be substantial. A study (listed below under Section 60.2) shows how minimal the exposure to dust could be to meet these newly proposed regulatory limits for the action level and PEL. MSHA has not considered the effect of the following criteria:
    - The availability of industrial hygiene pumps, calibration units, sampling media, or personnel to conduct the testing to accommodate the influx of baseline sampling required for positions that haven't been overexposed under the current standard.
    - Some mines use third party industrial hygiene testing while others conduct testing using in-house personnel. Many operations will be challenged to overcome the added workload and have it completed in the required 180-day time limit. Additionally, labs that receive the samples may not be able to provide timely feedback given the volume of samples submitted.
    - Costs to complete the sampling campaign whether in-house or contracted are expected to be extremely high given the number of samples required and short time for completion.
    - AMSA also has additional concerns that will be listed in a later section regarding personnel that may be added into the respiratory protection program due to lowering the allowable standards. Please note that some employees may not be able to be added into the program due to health reasons and there are limitations for additional accommodations that the mines can provide.

- **Section 60.2 The proposed Action Level of 25 micrograms per cubic meter, one-half of the proposed PEL is consistent with NOISH research findings and other MSHA standards.**
  - Similar to the MSHA Action Level for noise exposure (85 decibels), creating an action level that is more stringent than the PEL is important, so employers can take action before an overexposure occurs. The proposed action level is 50% of the proposed PEL which is 50% of the current 2023 Permissible Exposure Limit. MSHA is effectively proposing an action level that is four times more restrictive than the current exposure limit. This proposed action level is not achievable with current available technology given an employee's potential exposure in a dynamic outdoor environment.
  - One specific mine in Arizona conducted a baseline test with a continuous dust monitor (ES-405 Simultaneous Particulate Profiler) looking at the feasibility of this proposed action level, and concluded that even in an office setting, simply walking around the office after getting out of the chair created dust levels at nearly 15-20 micrograms per cubic meter or 80% of the proposed standard. How can an operating mine comply with this proposed standard short of enclosing the entire process or removing operators and maintainers from the

equation? Setting the action level and the PEL at half of the current limit is a great goal to work towards, but mine regulators must look at incremental changes to reach this goal. AMA suggests a phased approach.

- In addition to the low action levels and PEL levels proposed for the Silica Action Level, mine operators are concerned about the level of accuracy of the data at such low levels. In an outdoor environment, a change in wind direction can have dramatic effects on the levels of ambient dust completely independent of the dust produced by the mine. In Arizona specifically, with a landscape dominated by barren soil, these are real concerns that operators may have limited control opportunities.
- Specifically for open pit mines and mines with tailing impoundments, the feasibility of controlling dust outside of dig faces or active tailings deposits is also very limited. An open pit mine will have blasting personnel, surveyors, geologists, maintenance personnel, water management crews, and other key personnel that have primary responsibilities outside of closed cab equipment. Without the ability to consider administrative controls as an effective solution for dust exposure, the alternative solutions are very limited. Eliminating dust from highwall benches that are inaccessible is nearly impossible. Tailings impoundments have options for soil cement additives; however these don't eliminate dust down to proposed limits.

▪ **Section 60.12 Semi-annual evaluations to evaluate 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.**

- The proposed requirement for qualitative semi-annual evaluations consists of a broad statement with no specific requirements other than evaluations must be posted for 31 days after completion. Will these requirements be similar to the current workplace exam standard such that they must be maintained for 12 months and produced when requested by an authorized representative? It is also unclear if the semi-annual qualitative evaluations are only required when changes are made.
- If the mine is not required to submit semi-annual evaluations to MSHA after completion and MSHA has concerns with the evaluation or the way the evaluation was handled, will MSHA stop operations until they are satisfied through orders or citations? MSHA also regularly shy's away from providing guidance regarding how to solve problems in a mining environment and instead relies on the mine to submit a plan of action. Will MSHA provide guidance on mitigating dust hazards as part of the semi-annual evaluation process to assist mines with compliance?
- When challenges or non-compliance concerns are evaluated by MSHA, these concerns are sent to the district office or Arlington for review. Many of the challenges that mines face are related to specific environmental conditions that aren't well understood outside of the local area. Will MSHA allow local field offices to handle the semi-annual evaluations, or will they be submitted to a district office for review?

- **Section 37 Proposed Respiratory Protection Standard**
  - MSHA discusses using the hierarchy of controls as part of the proposed silica standard, however MSHA is also proposing to eliminate one of the key controls that is vital to the success of preventing exposure in mines across Arizona and the United States. For MSHA to simply remove administrative controls as an option while mandating lower dust levels in indoor/outdoor environments is irresponsible. While many mines have quantities of dust exceeding the current PEL and proposed limits, personnel aren't being physically exposed to dust/silica because of good respirator use practices, fit testing programs, and field audits for compliance. The AMSA recognizes the importance of implementing engineering controls, eliminating hazards where possible, and updating equipment to current technology standards where possible but there are too many circumstances where dust cannot be avoided. Respirators are a critical piece of a successful dust exposure prevention program and must be added back into the proposed standard as a solution combined with other options in the hierarchy of controls. MSHA must answer this question: If mining related silica deaths have fallen significantly and mine operators have quality respirator protection programs in place where employees and contractors are protected from inhaling quantities of silica dust, what is the actual exposure to the miners?
  - Why does MSHA continue to take the stance that respirators are not recognized when a respirator protects the miner from inhaling the dust when worn properly? Citations are issued as a result of dust in the air; however, miners are not actually exposed to the dust. Simply stating that respirators reduce citations to non-S&S is absent proof the miner was ever exposed to a hazard.
  - Other administrative controls must also be considered as part of the proposed silica standard such as rotation of employees which effectively reduces dust exposure (in conjunction with respirator use and engineered solutions that reduce overall dust). The hierarchy of controls is recognized world-wide and to simply remove part of the criteria is irresponsible. It may be appropriate for specific jobs to rotate employees to prevent exposure while for regular shift schedules it may not be feasible. OSHA has allowed this flexibility and it gives mine operators the ability to make prudent decisions that allow for continued safe production.
  - Many mines will require significant capital investments to work towards meeting the proposed standards and even these upgrades won't guarantee acceptable dust levels. The time to implement, parts procurement, approvals for expenditure, engineering, and design plans, as well as developing temporary solutions take far longer than MSHA has anticipated. MSHA calculated as expected cost benefit analysis on the proposed standard, but this cost benefit (Introduction; Paragraph 10) is flawed and doesn't consider the impact to local economies if mines go out of business because of unrealistic regulatory requirements. This may be a financial hardship for some operations, at a time when other just as critical investments are needed such as mobile equipment upgrades (see MSHA fatality trends for powered haulage deaths) as well as electrical infrastructure, training programs, guarding, and other critical standards that result in numerous deaths each year. These costs also

don't include fines from citations and orders as well as lost production when mines are shut down temporarily or permanently.

- The Department of Labor under OSHA standard 1910.1053(f)(1) recognizes the importance of engineering controls but also states that where employers demonstrate such controls are not feasible, the employee shall substitute them with the use of respiratory protection programs that comply with requirements of paragraph (g) in this OSHA standard. MSHA must follow suit with OSHA as shown to be best practice and successful throughout the United States.

- **Section 60.14 Respiratory Protection**
  - MSHA is proposing that where miners are not able to wear a respirator, they will be transferred to a location or other occupation where respiratory protection is not required. Depending on hiring practices, current job openings, labor union agreements, and other variables, this requirement would be very challenging to meet for many mines. MSHA cannot assume that positions will exist for all affected employees, especially before understanding the impact of the newly proposed standard. Where many companies may be compliant at the current silica dust PEL, cutting the limit in half potentially adds another large percentage of employees that haven't otherwise been enrolled into the respiratory protection program. MSHA has not considered this impact to the mines, or the total number of people affected that may need new jobs as a result of the change.
  - Additionally, when finding alternative job openings for employees, it is important to remember that many jobs don't have the same rate of pay. For example, a Processing Electrician might make significantly more than a mobile equipment operator at a lower skill level. Depending on where the openings are located around the mine, MSHA cannot expect mine operators or mine employees to solve wage disparities as a result of the MSHA proposed standard.
  - MSHA has also not considered the challenges already facing the mining industry with attraction and retention. All industries across Arizona and the United States are showing a lack of skilled labor. Increasing regulatory requirements before understanding the effects on the worker population will serve to reduce the hiring pool and ultimately result in a negative impact on mines' ability to operate.

- **Section 60.15 Medical Surveillance for Metal and Non-Metal Miners**
  - For the medical surveillance portion of the proposed standard, MSHA outlines the requirements for MNM Mines to come up to standards currently in place for coal mine operators. This standard doesn't specify if these are mandatory or just to be made available to the miners upon request. Many mine employers already offer these services through routine health care plans. Is this an acceptable response to the proposed standard?
  - If routine medical exams through provided health care plans is not acceptable to MSHA, many mines do not have the means to support a full-time health care professional on staff while sending employees to another provider may not be cost effective. These added costs

required for sometimes hundreds or thousands of employees at mines of all sizes could add up to over $500,000 in added operating expenses ($500 exam x 1,000 employees avg. not including new hires) independent of expenses already underway for dust mitigation efforts.

- Additionally, mines that are remote may have limited access to NIOSH approved equipment or health care services. Consideration must be provided for what mine operators are currently offering by in large across the country and what is truly needed that isn't available. Many mines require pre-employment screening as well as routine x-ray exams, annual fit tests, and regular pulmonary function checks.
- MSHA has not defined what "periodic" evaluations mean. Are mines allowed to interpret this as it best suits their needs?

In closing, there are many opportunities for the proposed silica standard to be a positive addition to the mining community, however there are many changes that must be considered to ensure a successful implementation of this standard. The Arizona Mining Association asks for your consideration of these comments, concerns, and questions to ensure a safe and healthy future for Arizona's miners.

Sincerely

Steve Trussell

Steve Trussell, Executive Director