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To:	zzMSHA-Standards - Comments to Fed Reg Group
Cc:	Bish, Jason
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US Silica comments to the RCS proposed rule attached.

Respectfully,

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September 11, 2023

S. Aromie Noe
Director, Office of Standards, Regulations, and Variances
Mine Safety and Health Administration ("MSHA")
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Re: RIN 1219–AB36
Docket No. MSHA–2023–0001

U.S. Silica Company ("U.S. Silica") is a global industrial minerals and logistics company, with core competencies in mining, processing, logistics and material science that enables us to produce and cost effectively deliver over 1,500 diversified products to customers across our end markets. U.S. Silica operates in 27 states and ships product around the world.

U.S. Silica is a member of the National Sand Stone and Gravel Association (NSSGA) and has provided statistical data to NSSGA for use in their comments, and supports the NSSGA's comments. Also, U.S. Silica operates under both MSHA and Occupational Safety and Health Administration ("OSHA") as a frac sand supplier. The implementation of OSHA rule 29 CFR §1910.1053 at its facilities gives U.S. Silica unique insight into how MSHA should adjust its thinking regarding ancillary provisions of the rule that affect its implementation.

From U. S. Silica's perspective, it would like to emphasize several critical issues that affect the industry and specifically U.S. Silica and including:

1. The Permissible Exposure Limit ("PEL") should follow OSHA's Standard for the PEL – §1910.1053 (c) and §1926.1153(d)(1).
2. Treating appropriate respirators as engineering controls for compliance purposes.
3. Maintenance employees are constantly performing non-routine tasks which could be planned or unplanned therefore allowing respirators for compliance purposes is the best way to ensure the maintenance employees remain less than the 50 $\mu g/m^3$.
4. How does MSHA define the "process to compliance?" Further what is economically feasible even when manufacturers recommendations may not meet PEL? There is no path to compliance, thus MSHA must accept respirators, thus accepting, The National Institute for Occupational Safety and Health's ("NIOSH") Hierarchy of Controls.

5. Medical surveillance is confusing and should follow a risk-based approach.
6. The use of cleaning booths for clothes should be codified.

1. The Permissible Exposure Limit should follow OSHA's Standard.

MSHA should not pick and choose which OSHA studies and regulatory language it wants to use if it uses the OSHA-supported Preliminary Risk Assessment set forth in Section VI. U.S. Silica supports the decrease in the PEL to 50 $\mu g/m^3$ based on OSHA's standard of an eight (8)-hour Time Weighted Average ("TWA"). Since MSHA is relying on OSHA's risk models used to support the 2016 rule, then the burden is on MSHA to rebut OSHA's approach by proving OSHA's approach does not protect workers.

Moreover, OSHA's approach makes common sense because it is more concerned about the personal exposure and the use of "personal protective equipment ("PPE") when known overexposures exists, rather than forcing upon the employer ineffective engineering or administrative controls. OSHA has a good sense of how work is done at a work site in that it is the personal exposure that matters and thus through direct employee protection (i.e., respirators) OSHA is able to protect employees in the best manner.

The full-shift requirement has been MSHA's past practice, but. That does not make it right for the miners or the operators. If MSHA wants to take that approach, then it should allow for respirator protection following some point during the work shift that extends beyond 8 hours.

2. MSHA Should Treat Respirators as Engineering Controls.

The proposed rule does not follow the accepted industrial hygiene approach of fully utilizing the "hierarchy of controls". By not doing so, MSHA does not allow an operator the ability to utilize the tools at its disposal to protect miners' health. All credible health organizations, including NIOSH and the Centers for Disease Control and Prevention ("CDC"), acknowledge the "hierarchy of controls" approach to controlling hazards including air contaminants; those hierarchical controls being elimination, substitution, engineering, administrative, and PPE. However, MSHA has left off one key element of controls out of the proposed rule – PPE, which includes respiratory protection.

It is an accepted industrial hygiene practice to use the controls in combination to act as redundant measures and best practices to protect employees from hazards. This is why MSHA, OSHA, operators, and employers require the use of other types of PPE following appropriate risk assessments including hearing protection, hard hats, protective eye wear, steel toes boots, gloves, etc.

MSHA and other organizations who have testified during the public hearings raised unfounded concerns about the miners' dislike of using respiratory protection. This testimony does not reflect the weight of evidence that reflects what is occurring at the mines and OSHA facilities. For instance, U.S. Silica miners wear several different types of powered positive pressure engineered respiratory devices when their miners are exposed to respirable crystalline silica. This includes

miners performing bagging, milling, general labor, maintenance, and other job tasks. Also, U.S. Silica's workers at OSHA regulated facilities also wear respirators as part of their approach to reducing personal exposures to respirable crystalline silica. U.S. Silica management does not receive complaints regarding the use of these respiratory devices. These devices are worn by U.S. Silica workers because U.S. Silica is concerned about the workers' health; however, these engineered devices are not viewed by MSHA field enforcement officials as an engineering control.

To control airborne respirable silica, U.S. Silica utilizes negative pressure and good housekeeping measures including dust collection units, cabs and enclosures, and other devices. However, not all engineering controls can be utilized effectively. For instance, water is not an acceptable approach in some operations that require the product remain dry since it will be bagged. That is why many plants have dryers prior to the bagging operation. Also, the ventilation controls cannot be located close enough to the point of dispensing the product or removing the bags from the spouts that fill the bags in all circumstances. This is simply a function of the negative pressure (i.e., suction) not being able to be positioned in a way that allows it to perform the expected/intended task effectively. Therefore, it is not for a lack of effort that engineering controls are not effective, it is a matter of physics and the constraints of the workplace.

On the other hand, OSHA's 2016 Silica Rule demonstrates the benefits of the hierarchy of controls by treating engineering and administrative controls (e.g., work practices) as equally effective in reducing silica dust exposures to achieve compliance. OSHA rightfully recognized that engineering controls and administrative controls have limitations and when a worker can be overexposed to the PEL of 50 $\mu g/m^3$, OSHA allows the use of respirators. So, if both fail, OSHA requires employers supplement the controls with respiratory protection to achieve compliance – §1910.1053(f)(1) and §1926.1153(d)(3).

OSHA's Table 1 is a good example of allowing the use of respirators for compliance purposes.

> Table 1 allows for the use of respirators for 6 out of 18 tasks after engineering and administrative controls have been implemented depending on the time the task has been performed, i.e., less than 4 hours or greater than or equal to 4 hours. These tasks include (1) handheld power saw, (2) walk behind saw, (3) dowel drilling, (4) jack hammer and chipping tools, (5) grinders for mortar removal, and (6) grinders for other than mortar removal.

MSHA should allow for the use of respirators after engineering controls have been implemented and the operator is unable to achieve compliance.

MSHA's states in its question 4 that,

> "MSHA has also determined that commercially available control technology is readily available. MSHA has also determined that administrative controls, used to supplement engineering controls, can further reduce and maintain exposures at or below the proposed PEL. Moreover, MSHA has preliminarily determined the proposed respiratory protection practices for respirator use are technologically feasible for mine operators to implement."

This is a questionable statement to make at the current threshold limit value of 100 µg/m^3 much more so when the PEL is reduced to 50 µg/m^3. MSHA should accept and not ignore that OSHA knows not all tasks can be compliant with 50 µg/m^3. MSHA should accept this premise and in so doing will require respiratory protection be worn which will improve workers' health by reducing personal exposure.

U.S. Silica has submitted sampling data to NSSGA for use in the industry's comments; however, based on its 2022 sample results, the number of samples over the new PEL of 50 µg/m^3 will increase significantly. This is a reality notwithstanding the amount of engineering, management, labor resources, and capital deployed already to improve engineering controls.

Also, in the proposed rule MSHA eliminates the operator rotation approach allowed by OSHA, which is another useful administrative control to achieve compliance. MSHA's rationale for not accepting operator rotation refuses to accept the risk-based approach and the concept of the threshold dose levels that does not increase the risk to a miner.

MSHA needs to take a more constructive approach to managing respirable dust by including the use of respirator protection after reasonable engineering controls and administrative controls have been deployed. At some point, the work process simply overwhelms engineering and administrative controls and when that occurs respiratory protection is the best solution.

MSHA's approach is proper to use engineering controls and administrative controls as the primary means of controlling respirable silica. The issue becomes how MSHA defines reasonable engineering controls and administrative controls. Again, NIOSH, CDC, and OSHA recognize a hierarchy of controls, which includes PPE including respirators. Not allowing respiratory protection is a missed opportunity and there are so many opportunities for MSHA to protect miners' health without creating/placing unnecessary burdens on operators. For instance, maintenance employees are one of the most highly overexposed workers so the only way to ensure compliance and health protections is to ensure these workers wear respirators.

To define engineering controls for maintenance employees is impossible and nonsensical. Maintenance employees are not amenable to engineering controls. Administrative controls do work but they also limit miners' ability to do work especially if operator rotation is prohibited. It appears that MSHA is lowering the PEL and tying both hands behind the back of the operator by not allowing greater use of operator rotation and respirators.

3. All Maintenance Should be Considered Non-Routine and Allow for Respirator Use.

Regarding maintenance at U.S. Silica Plants, in most instances ventilation is ineffective because the negative pressure dust collection systems cannot influence the area where the maintenance is being performed. Essentially, employees performing maintenance tasks are constantly performing non-routine tasks which could be planned or unplanned and so allowing respirators for compliance purposes is the best way to ensure they remain less than the 50 µg/m^3. The following are examples of the non-routine tasks that occur:

- if a belt chute from a hopper is being repaired, negative pressure ventilation cannot be positioned to capture/draw airborne respirable silica into the dust collection system;
- if a screen is being replaced or repaired, negative pressure cannot be positioned to work effectively;
- if a dust collection line plugs and must be cleaned out;
- if a bag house must be cleaned and filters changed;
- if kilns need to be cleaned;
- if upset conditions need repaired;
- if diagnosing a plant to determine the source of exposure may require the plant to operate in an upset condition; and
- there is a long list of other maintenance tasks that do not lend themselves to effective engineering controls either deploying ventilation or water.

Also, whole building dust collection systems are not completely effective due to building leakage and the volume of space trying to be impacted. While ventilation fans at the top of plants can be effective, these fans do have limitations. One of the limitations include environmental permit requirements which prohibit full building venting to atmosphere. In summary, operators cannot position negative pressure ventilation to capture/filter respirable silica effectively. Operators are limited in venting to atmosphere. Operators cannot blow ventilation into a dry sand plant or crusher since this will create a greater issue. Further, Operators cannot use water due to product requirements.

Since maintenance employees work in multiple areas of a plant or mine, it is difficult to develop effective corrective actions because the precise source of the silica dust may be difficult to pinpoint or locate. OSHA uses the concept of a "regulated area" wherein all workers who enter such an area must be under respiratory protection.

> See 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.

MSHA needs to explore this concept for employees who perform maintenance work tasks.

Another example that supports this approach is the ambient dust generated from off the mine property (i.e., agricultural or barren land) at some of our operations that when the wind blows, the respirable dust levels nearly reach the proposed Action Level. Perimeter respirable area samples were conducted at one of our West Texas sites and, out of 28 samples, 8 showed respirable silica present with 6 registering at least a 10 $\mu g/m^3$, and 3 measuring above 15 $\mu g/m^3$. This situation is completely out of the operator's control and happens often. The only solution in a situation such as this is to deploy respiratory protection.

4. **How does MSHA define the process to compliance? What is economically feasible even when manufacturers recommendations may not meet the PEL?**

MSHA has not defined a path to compliance. It simply assumes that all overexposures are fixable by engineering controls and administrative controls, yet it disallows operator rotation, which is an

effective tool. This is inconsistent as MSHA does recognize the use of PPE for compliance purposes when pertaining to Part 62 – Occupation Noise Exposure.

The MSHA Health Handbook addresses Part 62 on the noise Action Level (Dose) Results and enforcement with flow charts. (see MSHA Handbook PH20-V-4, Chapter 3). MSHA should include this type of approach for dust sampling and enforcement whereby after reasonable engineering and administrative controls have been deployed without reducing the miner's exposure below the PEL, then PPE (i.e., respiratory protection) should be allowed. Mine operators need clear and consistent guidance to ensure compliance and the action they must take to address non-compliance.

The questions any process flow should address:

- How long does an operator have to come into compliance before enforcement action is taken?
- What if an operator needs Capital Expenditures ("CapEx") to complete an upgrade of its whole building dust collection system, will MSHA provide the necessary time?
- What if an operator needs an automated bag handling system or automated bagging and cannot afford it?
- At what point are respirators acceptable for compliance purposes, as they are with OSHA?

MSHA makes a mistake of great magnitude in its estimate of annualized costs for compliance at $5.65 million for "Exposure Controls" as noted on page 88 FR 44938. In 2023 alone, US Silica has expended over $3.6 million in capital on two automated projects and other projects exceeding MSHA's $5.65 million estimate for the entire industry. While it is expected these improvements will allow the facilities to meet the proposed PEL of 50 $\mu g/m^3$, there are no guarantees. MSHA cannot ignore the fact that one mine operator could exceed the total estimated annualized cost for exposure controls.

5. Medical surveillance is confusing and should follow a risk-based approach.

Mandatory medical examinations are required under Part 60.15(c) for each miner who begins work in the mining industry for the first time and then follow-up examinations every three (3) years. By inserting this requirement, MSHA fails to use a risk-based approach which wastes unnecessary resources. The National Industrial Sand Association in its 2010 report titled Occupational Health Program for Exposure to Crystalline Silica in the Industrial Sand Industry, set forth the following risk-based approach:

Age of Employee / Years since first silica exposure	15-35	>35
0-8	Every 4 years	Every 4 years
>8	Every 4 years	Every 2 years

MSHA's approach should be focused on using engineering and administrative controls to reduce or eliminate the need for medical surveillance. MSHA should consider the OSHA approach

wherein a miner that is occupationally exposed to respirable crystalline silica for 30 or more days a year at or above the action level is offered medical surveillance. This aligns with the risk based approached, provides adequate personal exposure data, and allows the operator to make resource allocation decisions that benefit all miners.

6. **The use of cleaning booths for clothes should be codified.**

Regarding the use of clothes cleaning booths, MSHA mentions the use of these systems as an administrative control to remove dust from miners' clothes. Currently, MSHA requires a petition for modification which amounts to a perfunctory exercise that is unnecessarily time consuming and does not add value since NIOSH helped developed these systems in conjunction with industry operators. MSHA should codify the petitions for modification requirements to allow clothes cleaning booths. This is a simple fix and MSHA should encourage the use of these devices not by requiring time consuming petitions for modification but by codifying a routine procedure.

Summary

In conclusion, U.S. Silica supports: (i) the 50 $\mu g/m^3$ PEL; (ii) the deployment of reasonable engineering controls; (iii) the use of reasonable administrative controls such as operator rotation and clothes cleaning booths; (iv) risk-based sampling and medical surveillance, and (v) the use of respiratory devices that provide personal protection against exposure to respirable crystalline silica.

However, it seems that MSHA has gone out of its way to impose inconsistent standards as compared to OSHA's effective regulatory regime. Therefore U.S. Silica respectfully asks MSHA to consider an approach that is: (i) more consistent with OSHA on the enforcement of the PEL on an eight (8)-hour TWA; (ii) more consistent with OSHA on the deployment of the entire hierarchy of controls including operator rotation and respirators for compliance purposes; (iii) more consistent with OSHA regarding risk-based sampling; and (iv) more consistent with OSHA regarding the triggers for medical surveillance.

Lastly, OSHA and the businesses it regulates are not raising any alarms regarding incidences of silicosis over the inadequate implementation and enforcement of OSHA's 2016 standard, and therefore neither should MSHA.

Sincerely,

Jason Bish
Vice President EHS