IME
institute of makers of explosives

The safety and security institute of the commercial explosives industry since 1913

September 11, 2023

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Comments of the Institute of Makers of Explosives: Lowering Miners' Exposure to Respirable Crystalline Silica and Improving Respiratory Protection.
Docket No. MSHA-2023-0001 (88 Fed. Reg. 44852).[1]

The Institute of Makers of Explosives ("IME") appreciates the opportunity to provide comments on the above-captioned proposed rule.

Interest of IME

IME is a nonprofit association founded in 1913 to provide accurate information and comprehensive recommendations concerning the safety and security of commercial explosive materials. Our mission is to promote safety and the protection of employees, users, the public and the environment, and to encourage the adoption of uniform rules and regulations in the manufacture, transportation, storage, handling, use and disposal of explosive materials used in blasting and other essential operations.

IME represents U.S. manufacturers and distributors of commercial explosive materials and oxidizers as well as other companies that provide related services. Millions of metric tons of high explosives, blasting agents, and oxidizers are consumed annually in the U.S. Of this, IME member companies produce over 98 percent of the high explosives and a great majority of the blasting agents and oxidizers. These products are used in every state and are distributed worldwide.

A number of IME member companies provide drilling and blasting services in the mining industry, and their employees are likely to be directly impacted by the proposed respirable crystalline silica ("RCS") standard.

IME is first and foremost a safety organization, and our member companies make every effort to meet or exceed MSHA's safety requirements, including the current silica permissible exposure limit ("PEL"). MSHA is proposing to set the PEL at 50 ug/m^3 and an action level at 25 ug/m^3. While we do not oppose the PEL or action level proposed by the agency, consistent compliance with the

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

standard could prove problematic unless MSHA provides for the use of specific exposure control methods or allows more flexibility in the hierarchy of controls set out in the proposed rule.

Comments

1. IME supports the comments of the National Mining Association (NMA).

   IME fully supports the comments filed by NMA, in particular those addressing a preference for a risk-based approach to sampling and medical surveillance, a more reasoned approach to the application of hierarchical controls and use of respiratory protection, and those comments describing the practical difficulties likely to be encountered in the availability of sampling technology and laboratory capacity.

2. MSHA should allow specific exposure control methods in the mining industry.

   As MSHA is aware, in promulgating its RCS rule for the construction industry, OSHA allowed two options for compliance. The first option follows the requirements for general industry and maritime sectors. The second option, however, permits employers to use specific construction exposure control methods ("Exposure Control Methods for Selected Construction Operations"). Employers that choose to follow OSHA's proposed "Table 1" control methods are considered to be in compliance with the engineering and work practice control requirements of the standard, and are not required to conduct certain exposure monitoring activities.[2]

   IME supported this "Table 1" alternative, and agreed with OSHA that not providing such an option would have added considerably to compliance costs in the construction industry without achieving additional health benefits.

   We urge MSHA to adopt a similar approach in this rule. OSHA's Table 1 exposure controls for rock drilling operations require, among other things, the use of a dust collection system around the drill bit and the use of a low-flow water spray to wet the dust discharged from the dust collector.[3] In addition, most if not all drill rigs used by the explosives industry have fully enclosed cabs to isolate operators from dusty conditions. We would support a similar exemption in any MSHA final rule.

   That said, we also urge MSHA to allow the use of equivalent dust suppression/control methods where an alternative exists and an employer can demonstrate its effectiveness in controlling potential exposures. For example, the use of a water spray to control dust may not be appropriate in colder climates where its use would result in the creation of an ice hazard on the worksite. If an employer is able to use chemical, mechanical, or other means to limit RCS exposures in such conditions, that avenue should be made available.

[2] 29 CFR 1926.1153.
[3] Id. See also, OSHA Fact Sheet, *Controlling Silica Exposures in Construction While Operating Vehicle-Mounted Drilling Rigs* (Feb. 2013); and OSHA Publication 3362-05, *Controlling Silica Exposures in Construction* (2009).

3. Reliable measurement of the proposed action level and PEL may be problematic.

While we do not oppose the PEL and action level proposed by MSHA, we are not confident that those levels can always be reliably and consistently measured. As MSHA is aware, the process of sampling, measuring, and analyzing RCS is inexact, and there are expected variations and margins of error associated with each step. Moreover, conditions encountered by drillers and blasters are not static and will vary as work progresses to new locations and as weather conditions change. Taken together, the cumulative margin of error ensures that obtaining accurate and representative samples will be difficult at times.

In addition, mine operators would be required to ensure that ''no miner is exposed to an airborne concentration of respirable crystalline silica in excess of 50 mg/m3 for a full-shift exposure, calculated as an 8-hour TWA."[4] This does not take into account that many miners performing drilling and blasting services at mine sites work 10- to 12- hour shifts. The associated sampling and analysis would have to accommodate this variation. Specifically, if a driller/blaster works a 10- or 12- hour shift (or longer), the result of the sampling would be based on 480 minutes, meaning that the PEL is actually lower for longer shifts. This is more thoroughly addressed in NMA's comments and we defer to NMA's description and analysis of the issue.

4. MSHA's reliance on a hierarchical system of controls may not provide optimum miner protection.

The proposed standard would require mine operators to implement all feasible engineering controls in the first instance to reduce RCS levels below the PEL. Engineering controls could be supplemented with administrative controls if needed to achieve compliance. The use of respiratory protection would be allowed only "in limited situations and on a temporary basis, and to supplement engineering controls, followed by administrative controls."[5] Under the proposal, MSHA will not accept respiratory protection for compliance under most circumstances. This is a significant departure from the approach adopted by OSHA, and IME disagrees that it is the best means of protecting miners.

While operators in the commercial explosives industry will always look to engineering controls as the primary means for controlling exposures to RCS, the stringent hierarchical system of controls proposed by MSHA is, nevertheless, problematic. For instance, while engineering controls are certainly preferable, it makes little sense to require the use of engineering and work practice controls that the employer believes or knows would be inadequate to meet the PEL. In situations where an employer knows that respiratory protection will be required, the employer should be allowed to rely directly on that equipment. The use of modern, properly fitted and maintained respirators will offer miners the necessary level of exposure protection regardless of the level of RCS in the ambient air. In this regard, IME supports MSHA's proposal to incorporate by reference *ASTM F-3387-19, Standard Practice for Respiratory Protection*.[6]

[4] 88 Fed. Reg. at 44903.
[5] Id. at 44853.
[6] Id. at 44911.

The proposed rule does not provide an objective definition of what MSHA considers "temporary" use of respiratory protection, and, accordingly, we understand the agency to mean the ordinary definition of the term. For example, if windy conditions are encountered at a job site making the suppression and/or collection of dust difficult despite the use of engineered solutions on drill rigs, in our view this would warrant the use of respirators to protect workers from residual dust while loading blast holes. In this case, "temporary" could mean use of respiratory protection until winds subside to an acceptable speed. In certain situations this could require use of respiratory protection for multiple shifts on multiple days if conditions demand it. This does not constitute *reliance* on PPE, but supplemental use when necessary to safeguard the wellbeing of blasters. Nevertheless, it would be helpful to have a more definitive explanation of how MSHA intends to interpret and enforce the "temporary" use of respirators.

6. MSHA should allow a longer time for phase-in of the rule.

As proposed, a final rule would become effective 120 days after its publication in the Federal Register. Given the scope of the rule, MSHA should allow a longer period of time to allow stakeholders to make any necessary engineering modifications, obtain sampling equipment, arrange for medical testing, and to finalize contractual arrangements with accredited laboratories to perform the required sampling analyses.

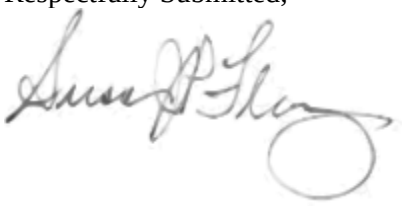
* * *

As previously noted, IME supports the comments submitted by NMA. Those comments are incorporated herein.

In summary, the proposed rule will impose significant administrative and technical requirements on mine operators. Notably, it lacks several key provisions that would assist operators in achieving the lowered action level and PEL, e.g., a "Table 1" for specific exposure control methods, and a more flexible provision allowing the use of respiratory protection when engineering and administrative controls are not sufficient to limit exposures. We encourage MSHA to reconsider its decision to not include exemptions for exposure control methods for certain operations, in particular, the use of vehicle-mounted drilling rigs, and its reliance on a hierarchical system of controls that prevents mine operators from designing the most impactful mix of control and exposure reduction measures to protect miner health and safety.

If you have any questions concerning this submission, please do not hesitate to contact me.

Respectfully Submitted,



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