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Office of Standards, Regulations, and Variances
Mine Safety & Health Administration
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Re: MSHA Respirable Silica (Quartz) Request for Information; 84 Fed. Reg. 168 (Aug. 29, 2019); Docket ID: MSHA–2016–0013

Dear Ms. McConnell:

The Portland Cement Association ("PCA") is pleased to submit the following comments in response to MSHA's Request for Information for Respirable Silica (Quartz) (the "RFI"). For the members of PCA, the health and safety of their workforces are core operating principles, and PCA is committed to working with MSHA to ensure that its policies governing control of respirable crystalline silica ("RCS") are practicable, implementable, and protective of miners' health.

PCA, founded in 1916, is the premier policy, research, education, and market intelligence organization serving America's cement manufacturers. PCA members represent 91 percent of the United States' cement production capacity and have distribution facilities in every state in the continental U.S. Cement and concrete product manufacturing, directly and indirectly, employs approximately 610,000 people in our country, and our collective industries contribute over $125 billion to our economy. Portland cement is the fundamental ingredient in concrete. The Association promotes safety, sustainability, and innovation in all aspects of construction, fosters continuous improvement in cement manufacturing and distribution, and promotes economic growth and sound infrastructure investment.

PCA works with its members on health and safety issues through an Occupational Health and Safety Committee which brings together the top health and safety experts in each company to promote shared industry goals. PCA is also a proud member of the PCA/MSHA Alliance, where we work hand in hand with MSHA to promote sound occupational health and safety practices and awareness through communications, training, and supporting resources.

Executive Summary

In response to the RFI, PCA offers the following comments and information:

1. MSHA can and should adopt a hierarchy of controls that includes personal protective equipment ("PPE") for compliance purposes.

2. MSHA's crystalline silica policy must distinguish between coal mines and metal/non-metal ("MNM") mines.

3. OSHA's RCS General Industry Standard provides for risk-based and feasible exposure monitoring.

4. OSHA's RCS Construction Standard provides a model for clearly-defined, task-based work practices under MSHA.

5. Tailored and consistent training is, and should continue to be, an important control tool.

6. MSHA enforcement policies must recognize and reflect the technical feasibility and reasonableness of specific controls and compliance timeframes.

Discussion

1. MSHA Can and Should Adopt a Hierarchy of Controls that Includes Personal Protective Equipment.

PCA welcomes MSHA's request for comment on the appropriate use of a "hierarchy of controls" regime to control silica exposure. PCA supports the use of a "hierarchy of controls" approach as it is applied under OSHA's RCS regulations, including the recognition that personal protective equipment, particularly the use of respirators, is an appropriate control in some cases.[1]

While MSHA has expressed concern about whether it has authority to adopt such an approach in the coal context, nothing in the Federal Mine Safety and Health Act of 1977, 30 U.S.C. § 801, *et seq*. (the "Mine Act"), or the regulatory framework for metal/non-metal mines at 30 C.F.R. Parts 56/57 would bar the use of a common-sense hierarchy of controls that includes technically and economically feasible engineering controls, administrative controls, and respirators. Under the Mine Act, this is legal and permissible in the MNM industry,[2] and PCA urges MSHA to exercise this authority.

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[1] *See* 29 C.F.R. § 1926.1153(d)(3)(i) ("*Engineering and work practice controls).* The employer shall use engineering and work practice controls to reduce and maintain employee exposure to respirable crystalline silica to or below the PEL, unless the employer can demonstrate that such controls are not feasible. Wherever such feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the PEL, the employer shall nonetheless use them to reduce employee exposure to the lowest feasible level and shall supplement them with the use of respiratory protection .....").

[2] *See* 30 U.S.C. §§ 841-2 (imposing, through interim standards, limitations on the use of respirators while stating explicitly that such provisions apply to "underground coal mines").

A hierarchical approach to control selection is not just legally supported; it is good policy. PPE is effective in protecting miners from potential RCS exposure, provided that the use of PPE is done per a written program and that the program is complied with. PPE can protect miners from potential RCS exposure where engineering and other controls are not technically or economically feasible.

PPE is also effective in protecting miners who perform maintenance activities. The nature of maintenance activities is such that they can be performed anywhere at an operation, and in multiple locations during a single maintenance event. Maintenance sometimes occurs during upset conditions. In some instances, maintenance activities are performed on or in the ventilation engineering controls themselves, *i.e.*, the dust collection equipment such as bag houses. The nature of maintenance makes it impossible to control RCS exposures without PPE, and PPE when used in compliance with a program protects maintenance workers.

PCA supports the use of PPE where technically and economically feasible engineering controls are not available. Again, there can be no one-size-fits-all definition of what is economically and technically feasible. MSHA should provide flexibility to allow operators, especially small operators, to claim infeasibility under reasonable terms.

2. MSHA's Crystalline Silica Policy Must Distinguish between Coal Mines and MNM Mines.

It is important to reiterate that coal mines and metal/non-metal mines are significantly different in terms of both the potential health hazards and risks involved and MSHA's legal flexibility and authority. Coal and metal/non-metal are different industries, presenting different mine atmospheres, challenges, and exposures to airborne particles.

The distinction is even more stark when comparing an underground coal mine to a cement plant. Cement plants are examples of "mines" that look much more like manufacturing plants. A cement manufacturing plant involves known material inputs and outputs and fixed processing equipment and controls. Because of these significant differences, in order to provide miners in each industry with the utmost feasible protection, any future silica regulation must continue to focus separately on solutions and requirements that are appropriate for each type of mine and avoid one-size-fits-all approaches.

With respect to MSHA's legal authority for regulating silica, MSHA cites limitations in the Mine Act on using respiratory protection for compliance in coal mines, ignoring the fact that those statutory limitations do not apply to MNM mines.[3] Indeed, the majority of the RFI's background section recites respirable dust and coal dust rules and provisions authorized under Mine Act Section 202, 30 U.S.C. § 842, implying that such provisions and constraints apply to metal/non-metal mines, as well. Yet, Section 201 of the Mine Act expressly limits these provisions

[3] *Id.* at 45453 ("MSHA requires engineering or environmental controls as the primary means of controlling respirable dust. This is consistent with section 202(h) of the Federal Mine Safety and Health Act of 1977 (Mine Act), which provides that the use of respirators shall not be substituted for environmental control measures in the active workings.")

to coal mines,[4] and MSHA has promulgated regulations for coal mines that are separate, distinct, and largely quite different from regulations for the metal/non-metal industry.[5]

It is no surprise that the Mine Act itself, decades of MSHA regulation, and the RFI's cited illness data all highlight unique silica concerns in the coal industry. Metal/non-metal mines, including cement plants, are different in kind, processes, and hazards. Any new MSHA policy or standard applied to the metal/non-metal mining industry should follow this legal and factual precedent.

3. OSHA's RCS General Industry Standard Provides for Risk-Based and Feasible Exposure Monitoring.

Employers protect their workers best when they are able to direct limited resources appropriately. To the extent MSHA deems further action necessary to address RCS risks in MNM mines, it should adopt the approach taken by OSHA's general industry standard.[6] Obviously, the determination of the RCS exposures to support an exemption should be based on objective data. 29 CFR 1920.1053 allows for performance-based assessment of 8-hour exposures and / or representative sampling within scheduled monitoring assessments, and further allows for cessation of periodic monitoring for results found to be below the action level.[7,8,9,10]

For example, jobs and tasks at a quarry and processing facility that mines and processes limestone containing only trace levels of crystalline silica cannot have RCS exposures because of the geology of the deposit, and where objective data supports the lack of RCS hazards, these types of operations should be exempted from an MSHA RCS standard.

Within a cement manufacturing operation, large portions of a cement plant would likely qualify for an exemption. While certain raw materials used in cement manufacturing might, in some cases, contain some crystalline silica (*e.g.*, limestone or sand), any hazards related to such materials would be limited to the steps in the mining and manufacturing process prior to the pyroprocessing phase in the kiln. Once in the kiln, portland cement production chemically

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[4] *See* Mine Act Section 201, 30 U.S.C. § 841 ("The provisions of sections 202 through 206 of this title shall be ... *applicable to all underground coal mines.*") (Emphasis added).

[5] *Compare* 30 C.F.R. Subchapter K (Metal and Non-metal Mine Safety and Health) with Subchapter O (Coal Mine Safety and Health).

[6] *See* 29 C.F.R. § 1910.1053(a)(2) ("This section does not apply where the employer has objective data demonstrating that employee exposure to respirable crystalline silica will remain below 25 micrograms per cubic meter of air (25 μg/m^3) as an 8-hour time-weighted average (TWA) under any foreseeable conditions."); *see also* 30 C.F.R. § 1926.1153(a) (similar provision in construction standard).

[7] 29 C.F.R. § 1910 1053(d)(1) ("The employer shall assess the 8-hour TWA exposure for each employee on the basis of any combination of air monitoring data or objective data sufficient to accurately characterize employee exposure to RCS.")

[8] *Id.* § 1910.1053(d)(3)(i) ("…the employer may sample a representative fraction of these employees in order to meeting this requirement.")

[9] *Id.* § 1910.1053(d)(3)(ii) ("If initial monitoring indicates that employee exposures are below the action level, the employer may discontinue monitoring for those employees whose exposures are represented by such monitoring.")

[10] *Id.* § 1910.1053(a)(2) ("This section does not apply where the employer has objective data demonstrating that employee exposure to respirable crystalline silica will remain below 25 micrograms per cubic meter of air (25 μg/m3) as an 8-hour time-weighted average (TWA) under any foreseeable conditions."); *see also Id.* §1926.53(a) (similar provision in construction standard).

transforms any silica-containing materials at temperatures in excess of 1450°C into calcium silicates – a separate class of compounds with completely different physical and chemical characteristics.

4. OSHA's RCS Construction Standard Provides a Model for Clearly-Defined, Task-Based Work Practices under MSHA.

To the extent that MSHA deems it necessary to proceed with rulemaking on RCS in the MNM mining sector, it should adopt the approach taken by OSHA's construction standard, identifying specific dust control work practices that operators can employ to manage worker exposure risks during common tasks. Such an approach, illustrated by "Table 1" of the OSHA RCS standard for construction,[11] provides a table that lists common tasks with established effective dust control methods and provides that dust sampling for these tasks is not required if the listed dust control methods are correctly followed.

Whatever the PEL, this approach increases widespread compliance by making compliance expectations clear and straightforward. This is particularly beneficial for safety and health at smaller operations, which lack the resources and expertise to conduct sampling and extensive trial-and-error with controls. This approach also empowers miners themselves to be part of ensuring compliance. While individual miners cannot know – without doing their own sampling – whether their work areas are in compliance, it is easy for them to know whether they are following the required Table 1-type protective measures for a given tool and situation.

Typical operations at limestone quarries and cement facilities have many common jobs or tasks with established effective dust control methods that can be included in an MSHA version of Table 1. A preset table of acceptable controls for particular tasks and conditions is especially appropriate for manufacturing facilities like cement plants. They tend to involve fixed equipment, well-defined processes, expected inputs and outputs, and fairly predictable levels of exposure. PCA welcomes the opportunity to work with MSHA to identify applicable tasks and control techniques that would address the unique operating conditions within a cement facility.

5. Tailored and Consistent Training Is, and Should Continue to Be, an Important Control Tool.

Training on the potential adverse health effects of RCS, and the ways to avoid them through strategies that include the use of engineering controls, good housekeeping, and PPE, is an important part of protecting miners and is currently conducted by operators in order to comply with the MSHA Hazard Communication Standard. To the extent that MSHA considers new RCS requirements or standards for MNM mines, any training requirements should be satisfied through new miner, task, and/or annual refresher training under Parts 46 and 48. Additionally, any training on RCS as a hazardous material should be consistent with, and not duplicative of, training required by other regulations that address hazardous materials.

[11] 29 C.F.R. § 1926.1153(c)(1) ("Table 1: Specific Exposure Control Methods When Working with Materials Containing Crystalline Silica").

6. MSHA Enforcement Policies Must Recognize and Reflect the Technical Feasibility and Reasonableness of Specific Controls and Compliance Timeframes.

When a sample result exceeds the current PEL, the process for investigating and identifying the source(s) of excessive RCS, as well as researching, developing, experimenting with, installing, and bringing online new controls may be a complex undertaking. This can be especially true at operations with control measures already in place. Unfortunately, MSHA inspectors have sometimes refused to provide mine operators with reasonable time to abate an alleged violation by re-evaluating existing control measures and evaluating, testing, and implementing new ones.[12]

Any future RCS regulations and enforcement policies should take seriously the Mine Act's requirement that MSHA provide a reasonable time to abate alleged violations. There is no reason not to provide the time necessary for getting long-term exposure controls right. No miner's health is at risk during this time because, during investigation and abatement, the operator must put in place appropriate administrative controls and equip miners with respiratory protection so that no miner is actually exposure to respirable silica in excess of the PEL.

Conclusion

PCA appreciates the opportunity to provide the above general comments to MSHA in response to the RFI. We would like the opportunity to supplement these comments with additional materials and speak further with MSHA about the industry's ongoing efforts and success in managing occupational exposure to RCS. We would also welcome the opportunity to learn more about any cement-specific data or concerns MSHA may have with respect to the industry's current operations.

If you would like to discuss these comments further or explore additional opportunities to engage our industry on RCS or other health and safety issues, please feel free to contact me at 202-297-4420 or cfranklin@cement.org. My team and our members would be happy to work with you and your staff on this or other pressing priorities.

Sincerely,

Charles L. Franklin

Digitally signed by Charles L. Franklin
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Date: 2019.10.28 23:43:35 -04'00'

Vice President and Counsel, Government Affairs
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[12] Sometimes, in fact, investigation reveals that an outlier sample was the result of an error in calibration, sampling, and/or analysis. In such cases, after investigation, re-testing may show the existing controls to be effective. MSHA should use its discretion to consider whether any sampling error may have occurred when there is no upset or other condition that may have caused an anomalous sample and where all testing before and after a particular sample were compliant.

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General Comment

See attached file(s)

Attachments

PCA Response to MSHA RCS RFI 4850-9019-6138