A O E C

August 29, 2023

Assistant Secretary Christopher J. Williamson
Mine Safety and Health Administration
201 12th St S
Suite 401
Arlington, VA 22202-5450

RE: Docket # MSHA-2023-0001; RIN 1219-AB36

Dear Assistant Secretary Williamson,

The Association of Occupational and Environmental Clinics (AOEC) strongly supports the proposed rule "Lowering Miners' Exposure to Respirable Crystalline Silica and Improving Respiratory Protection". Established in 1987, AOEC represents a network of more than 40 clinics in 24 US states and two Canadian provinces. AOEC's mission is to facilitate the prevention and treatment of occupational and environmental illnesses and injuries through collaborative reporting, investigation, and encouragement of high-quality clinical services for people with occupational or environmental health problems.

As you well know, severe silicosis has re-emerged in the last decade as a serious public health problem. The National Institute for Occupational Safety and Health (NIOSH) reported an increase in rapidly progressive coal workers pneumoconiosis (CWP) and progressive massive fibrosis (PMF) in both underground and surface coal miners, particularly young miners (Antao et. al, 2005; Laney et. al., 2012). NIOSH identified higher levels of silica in coal dust as a key factor (Hall et. al. 2019). Severe silicosis in the engineered stone manufacturing industry has been reported around the world, including a large number of cases in the U.S. (Kramer et. al, 2012; Friedman et. al., 2015; Leso et. al., 2019; Rose et. al.,2019; Wu et. al., 2020; LACDHS, 2022; Fazio JC, Gandhi SA, Flattery J et. al., 2023). If you have not already done so, please review these references, particularly in relation to potential high silica exposure and serious health effects for drillers and industrial sand baggers.

As MSHA notes, preventing and reducing silica exposure through a strictly enforced permissible exposure limit, exposure monitoring, and engineering and administrative controls is essential in protecting workers. Carefully conceived medical surveillance is an important component of the rule because it can identify silica-related diseases early when removal from exposure and appropriate treatment can improve health outcomes. The medical surveillance section of the proposed standard is a critical opportunity to improve the health of miners throughout the United States. The following are our recommendations and responses to the questions posed regarding medical surveillance for metal/ non-metal (MNM) miners and for coal miners.

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Regarding **question 32,** we strongly recommend that all surveillance exams be mandatory for all MNM and coal miners, both on hire and on a regular basis thereafter, as they are likely to be exposed to silica throughout their careers (Antao, 2005; Laney, 2012; Hall, 2019; Misra et. al., 2023). The proposed 2 to 5-year frequency of mandatory or voluntary surveillance will not be protective enough for workers with accelerated and acute silicosis and some silica-associated diseases. We recommend that flexibility for more frequent exams be written into the rule. Workers with signs or symptoms of silica-related diseases should be offered medical surveillance exams. Further, the OSHA standard allows for more frequent exams if recommended by the physician or other licensed healthcare provider (PLHCP). MSHA should include these options for more frequent exams.

In addition, we recommend that training requirements for miners be written into the rule (or added to 30 CFR Part 46) that cover the signs and symptoms of silica-related diseases.

Regarding **question 33**, clinicians performing the examinations and reviewing the results must have the education and training to recognize silica-related diseases and provide the worker with appropriate education and recommendations for further medical management. Silicosis is not the only silica-related disease. Silica causes a diverse set of serious conditions, including lung cancer, chronic obstructive pulmonary disease, autoimmune diseases, kidney disease, heart disease, and infectious diseases (Krefft et. al., 2020; Liu et. al., 2020; OSHA, 2016a). Decisions on further testing and evaluations, such as low dose CT scanning (LDCT) for lung cancer, are complex and changing (Welch et. al., 2019; Dement et. al., 2020). Medical surveillance should be supervised and performed by physicians specializing in occupational medicine and/or pulmonary medicine who have expertise in silica-related diseases. The best way to ensure this is to require examinations at NIOSH-approved facilities or with physicians who are board-certified in occupational or pulmonary medicine. The provision to refer to a specialist for an abnormal chest radiograph or pulmonary function test should continue to be required and should be expanded to include any appropriate specialist for a silica-related disease. For instance, if a worker has signs of kidney or auto-immune disease, the worker will need to be referred to a nephrologist or rheumatologist, as appropriate.

Regarding the requirement for coal mine operators to submit their medical surveillance data to NIOSH, we strongly recommend that this requirement be extended to MNM operators. Without NIOSH oversight, the epidemic of severe silicosis in young coal miners might never have come to light or would have been delayed, causing many more needless illnesses and deaths. The Occupational Safety and Health Administration (OSHA)'s silica standards do not have that same level of oversight. Do not make the same mistake as OSHA. Provide MNM miners with the same level of protection you provide coal miners. Both MNM and coal miners have significant, ongoing silica exposure and should have the same medical surveillance provisions. And ensure that NIOSH has the funding to provide their expertise and oversight. The basic infrastructure exists at NIOSH but will need funding to meet the demand.

Regarding recordkeeping, the requirement to keep records for only 6 months after employment is woefully inadequate. Silica-related diseases have long latency periods - years to decades

(Krefft, 2020; Leso, 2019; Rose, 2019; OSHA 2016a). We recommend that MSHA follow OSHA's requirements that workers' medical records be kept for the length of employment plus 30 years.

Regarding the components of the medical surveillance exam (**question 34**), we agree with the requirements for a history, physical exam, chest radiograph interpreted by a certified B-reader, and a pulmonary function test performed by a NIOSH-certified technician. However, there is no initial requirement for a test for latent tuberculosis (which is included in the OSHA standards). We recommend that this be added because of the significantly increased risk of conversion to active tuberculosis with silica exposure (Lewinsohn et. al., 2017). In addition, we recommend that the option for a low-dose CT scan (LDCT), if recommended by the examining clinician, be added to the rule. The use of LDCT can identify lung cancer earlier when more effective treatment can be provided (Welch, 2019; Dement, 2020). Provision for LDCT, if indicated, should also be added to coal miners' medical surveillance.

Regarding **question 35**, reporting requirements for initial and periodic medical surveillance can and should follow OSHA's silica standards [OSHA 2016b]. Specifically, examining clinicians provide a written report to the worker and a written medical opinion to the employer. The written report is confidential and does not go to the employer. The clinician also discusses the examination results with the worker. The worker signs a medical release form that clarifies what information the employer receives.

We agree with the requirement to move workers who cannot wear respiratory protection to a job where respiratory protection is not needed. We recommend that a provision for medical removal protection be included in the rule (**question 36**). Workers with newly diagnosed silica-related diseases must have the option of working in a silica-free environment. In addition, workers with latent tuberculosis have a high risk of conversion to active tuberculosis (Lewinsohn, 2017).

In summary, medical surveillance for MNM miners is a very important opportunity that can identify the burden of disease in this population, ensure that miners know about their respiratory health related to their employment, and monitor their health over time. These are basic principles of occupational health that are applied to many other worker groups and should be provided to MNM. Both MNM and coal miners risk their lives and health every day. This is an opportunity, after decades of neglect, to provide MNM miners with the medical testing and follow-up they need. A comprehensive, up to date medical surveillance program for both MNM and coal miners must be formulated and included in the proposed rule. AOEC stands ready to provide guidance to MSHA in developing such a program.

Sincerely,

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References:

Antao VCDS, Petsonk EL, Sokolow LZ et. al. Rapidly progressive coal workers' pneumoconiosis in the Unites States: geographic clustering and other factors. Occup Environ Med, 2005; 62:670–674. doi: 10.1136/ oem.2004.019679.

Dement JM, Ringen K, Hines S et. al. Lung cancer mortality among construction workers: implications for early detection. Occup Environ Med, 2020;77:207–213.

Fazio JC, Gandhi SA, Flattery J et. al. Silicosis Among Immigrant Engineered Stone (Quartz) Countertop Fabrication Workers in California. JAMA Intern Med, July 24, 2023; E1-E8; doi:10.1001/jamainternmed.2023.3295

Friedman GK, Harrison R, Bojes H et. al. Silicosis in a countertop fabricator – Texas, 2014. Morbidity and Mortality Weekly Report (MMWR), February 13, 2015; 64(5):129-130.

Hall NB, Blackley DJ, Halldin CN, Laney AS. Current review of pneumoconiosis among US coal miners. Curr Environ Health Rep, 2019; 6(3): 137–147. doi:10.1007/s40572-019-00237-5.

Kramer MR, Blanc PD, Fireman E et. al. Artificial stone silicosis- disease resurgence among artificial stone workers. CHEST, 2012; 142:419-424.

Krefft S, Wolff J, Rose C. Silicosis: An update and guide for clinicians. Clin Chest Med, 2020; 41:709-722.

[LACDHS 2022]. Los Angeles County Department of Health Services. "Vigilant Olive View-UCLA Medical Center Physicians Identify Rare Occupational Lung Disease." Pulse, December 2022. Available at https:// dhs.lacounty.gov/olive-view-ucla-silicosis/

Laney AS, Petsonk EL, Hale JM et. al. Potential determinants of coal workers' pneumoconiosis, advanced pneumoconiosis, and progressive massive fibrosis among underground coal miners in the United States, 2005-2009. Am J Public Health. 2012; 102:S279 S283.

Lewinsohn DM, Leonard MK, LoBue PA et. al. Official American Thoracic Society/Infectious Diseases Society of America/Centers for Disease Control and Prevention Clinical Practice Guidelines: Diagnosis of Tuberculosis in Adults and Children. Clin Infect Dis. 2017 January 15; 64(2): 111–115. doi:10.1093/cid/ciw778.

Leso V, Fontana L, Romano R et. al. Artificial stone associated silicosis: a systematic review. Int J Environ Res Public Health, 2019; 16:586.

Liu K, Mu M, Fang K et. al. Occupational exposure to silica and risk of heart disease: a systematic review with meta-analysis. BMJ Open 2020;10:e029653. doi:10.1136/ bmjopen-2019-029653

Misra S, Sussell AL, Wilson SE, Poplin GS. Occupational exposure to respirable crystalline silica among US metal and nonmetal miners, 2000-2019. Am J Ind Med, 2023; 66:199-212.

[OSHA 2016a] Medical Surveillance Guidelines. OSHA Silica Standard for General Industry, 1910.1053, Appendix B. Accessed at: 1910.1053 App B - Medical Surveillance Guidelines | Occupational Safety and Health Administration (osha.gov)

[OSHA 2016b] Reporting requirements for OSHA Silica Standard for General Industry, 1910.1053. Sections 1910.1053(i)(5) and (i)(6). Accessed at: 1910.1053 - Respirable crystalline silica. | Occupational Safety and Health Administration (osha.gov)

Rose C, Heinzerling A, Patel K et. al. Severe silicosis in engineered stone fabrication workers – California, Colorado, Texas, and Washington, 2017-2019. Morbidity and Mortality Weekly Report (MMWR), September 27, 2019; 68(38):813-818.

Welch LS, Dement JM, Cranford K et. al. Early detection of lung cancer in a population at high risk due to occupation and smoking. Occup Environ Med, 2019;76:137–142.

Wu N, Zue C, Yu S, Ye Q. Artificial stone-associated silicosis in China: a prospective comparison with natural-stone-associated silicosis. Respirology, 2020; 25:518-524.