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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 Number: MSHA-2023-0001

Dear Director Noe:

I am making comments in response and opposition to the proposed rule "Lowering Miners' Exposure to Respirable Crystalline Silica and Improving Respiratory Protection." As I jump into this, I would like to give some background on my experience and history. I am an Industrial Hygienist (IH). I graduated in Industrial Hygiene and have worked in various large mining operations in the US as an IH and Safety Professional. My job for years has been to understand exposure for miners and work with them and companies to reduce this exposure by installing engineering controls, training miners on how to reduce their exposure through work practices, and evaluating the effectiveness of controls. I have taken thousands of personal dust and noise samples throughout my career. Just over 3 years ago, I started a training and consulting business supporting mining companies. I have taken additional personal IH samples and performed qualitative risk assessments for mining companies across the US. I enjoy this profession immensely and love educating miners on risk and exposure. We currently work with about 300 mining companies and organizations, providing some of these IH and training services for them. I have spoken out vocally against this standard and the effects of implementing this standard in Arlington and Denver. You can see my transcript notes for those comments. I oppose the rule and propose we keep our current standard for MNM mining, as documented below.

During public comments in Denver, Patricia Silvey asked me if I supported the 50 ug/m3. At that hearing, I said that I did. Since then, I have found additional data in mining that has changed my opinion. I believe that the current standard, if followed, will be more than sufficient. This has changed based on actual

data collected by MSHA and not theoretical data. After reviewing submitted cases using significant data from the Mine Data Retrieval System (MDRS), it is evident that this is an underground coal issue, specifically in the Appalachian region of the US. Cases of silicosis have confirmed this. This change was based on cases of silicosis in the US submitted via 7000-01 forms.

In the past 20 years in M/NM mining, we have had 66 cases of silicosis and pneumoconiosis. Only 20 have been in the last 10 years (since January 2013). We are trending in the right direction in MNM. Whereas coal has had 1660 cases of silicosis/pneumoconiosis, 1160 of those have been in the past 10 years (see attachments for actual data). When you look at the breakdown in mining, coal makes up less than 9% of total mines in the US (as of 2019, as published in the proposed silica standard). So, roughly of the 60,000 coal miners and 285,000 MNM miners. When you do the math, we have had about 2 silicosis diagnoses annually in MNM out of 285,000 miners. The chance of getting a diagnosis with silicosis is about 0.0007%. You are 9 times more likely to get struck by lightning than diagnosed with silicosis in mining.

My comments will be focused on topics that I have researched and feel confident in. I wish I could address more of the issues and questions posed by MSHA, but with only 60 days to make comments, there wasn't enough time to do proper justice to this proposed rule. We need 180 days at a minimum to develop solid and well-developed comments, similar to what OSHA gave the general industry and construction when this rule was passed through them.

I have broken down my specific comments below.

Question 2: MSHA should consider some of their data for this risk analysis on the mining industry's exposure issues. In harvesting data from the MDRS, we found some glaringly apparent results. Silicosis cases are on the rise in coal and decreasing in M/NM. From 2003 to 2013, in MNM, we had 66 cases of silicosis. Those then dropped to 20 cases from 2013 to 2023. I call this a success story for MSHA. With an average latency period of about 30 years, this shows that since the Mine Act was passed, msha has been doing its job and helping reduce miners' exposures in M/NM mines. In coal, we see a different story as they went from 500 cases in 2003 to 2013 up to 1160 cases from 2013 to the current date. This standard should only focus on the cohort with these issues, which is coal mining, specifically underground coal mining.

See the spreadsheets used for reference that were uploaded with these comments.

Question 5: While this standard to do medical surveillance may be technically feasible for many of our clients, it is not possible at all. Many of our clients will have to travel 3+ hours in each direction to find a PLHCP to perform these evaluations and maybe further for a B-reader. We have a few clients that will have a 6+ hour drive from their facility to achieve this. With minimal risk, as documented above, this is overkill and unnecessary.

Question 7: MSHA's "solutions" are not necessary per documentation (see attached for documented cases of silicosis), and their alternatives are even worse. The costs will be astronomical for operators with no real benefits (see other answers to costs of the proposed standard as it sits right now).

Question 8: Here is MSHA's basis for costs for small mine operators (see table IV-3):

Table IV-3: MNM Respirable Dust Samples by Occupation, 2005-2019

Occupation	Number of Samples	Number of Samples with Respirable Crystalline Silica Concentration Greater than 100 µg/m³	Percent of Samples with Respirable Crystalline Silica Concentration Greater than 100 µg/m³
Drillers	2,092	107	5.1%
Stone Cutting Operators	2,446	474	19.4%
Kiln, Mill, and Concentrator Workers	1,802	125	6.9%
Crushing Equipment Operators and Plant Operators	11,565	816	7.1%
Packing Equipment Operators	2,980	278	9.3%
Conveyor Operators	215	24	11.2%
Truck Loading Station Tenders	453	32	7.1%
Operators of Large Powered Haulage Equipment	17,016	378	2.2%
Operators of Small Powered Haulage Equipment	1,110	77	6.9%
Mobile Workers	15,216	1,108	7.3%
Miners in Other Occupations	2,874	120	4.2%
Total	**57,769**	**3,539**	**6.1%**

Source: MSHA MSIS respirable crystalline silica data for the MNM industry, January 1, 2005, through December 31, 2019 (version 20220812).

The reason why I am showing this table on this question is that this is where MSHA has pulled their data for costs. They used samples taken by MSHA inspectors and then weighted these based on the number of samples plus exposures to the current standard. Powered haulage operators make up the bulk of samples taken (both large and small). At the same time, conveyor operators are the smallest group. Conveyor operators in the companies we work with makeup about 1 to 4 compared to haulage operators. According to this data, it is 1 to 79. Conveyor operators are overexposed over 11% of the time to the current standard. If this data was more in line with what we are seeing in industry, then it would affect cost estimates from MSHA.

How much will it actually cost mine operators? These numbers are taken from discussions with small operators across the US but mainly located in the West about what their costs will look like. MSHA agreed that the proposed rule will cost smaller operators more money because they don't have infrastructure in place or engineering controls to meet the proposed standard, and they are correct. The costs we are seeing are vastly different. Here are MSHA's proposed cost estimates (Table X-2):

Table X-2. Annualized Compliance Costs to Revenues for a Typical Small-Entity Controller

Small-Entity Controller	Number of Controllers	Average Annual Regulatory Cost Per Controller (in 2021 $) at a 3 Percent Discount Rate	Average Annual Revenue Per Controller (in 2021 $)	Average of Cost as a Percent of Revenue (Unweighted Average of the Percentages Among All Controllers)*
Coal Small-Entity Controllers	235	$ 3,191	$ 12,816,000	0.025
MNM Small-Entity Controllers	4,772	$ 4,250	$ 3,822,000	0.127
Total	5,007	$ 4,200	$ 4,243,000	0.122

*Note that because column displays the unweighted average of the controller-level percentages across all controllers, it is not equivalent to the ratio of the average cost among all controllers and the average revenue among all controllers in the previous two columns.

Again, these estimates were based on flawed sampling data, and it would be hard to fault them if the data they are using is correct.

Here is the actual data we are seeing with our mine sites:

Cost for typical operator with 10-18 employees ($3.8mm annual revenue)		
Service/Equipment	**Intial Cost**	**Per Year Cost**
IH Sampling (SEG Development, IH Plan)	$7,500	$7,500
Lab Fees for Quarterly sampling	$650	$1,950
Dust Control Equipment (Transfer point controls, fog machines, etc.)	$42,500	$9,400
Medical Survelience Costs	$3,500	$4,350
Water/MgCl (Price per day to haul water/mgcl)	$66,000	$66,000
Power Haulage Cabin Filteration Costs	$60,000	$15,000
Intial Costs for implementation	**$180,150**	
Annual Costs Per Year		**$104,200**
This data is based on costs with discussions of over 60 mining companies (mainly in the Western US) that meet the criteria above. This is also the cost per pit. Note that some operators in this category estimate costs upwards of $1mm annually due to the high cost of hauling water to their remote facilities. There are no inderect costs included in this proposal, which will be significant including (local charity donations, lost production, etc.).		

Our initial costs are knocking on the door of $200k per pit, with annual expenses around $100k. I have to make a note, though, and say we have one operator whose costs will be over $1mm annually due to the costs of hauling water to remote locations. They have 2-3 remote pits crushing for the forest services and don't make that in profits. We have had other operators looking at closing down half their pits and laying off employees to consolidate costs. These costs don't include everything they we see either. We haven't discussed indirect costs, costs for employees to travel to medical exams, and costs to communities as these operators cut costs. The costs are out of hand for all operators, especially small mine operators. We will lose many smaller operators due to prohibitive costs without benefitting the MNM mining industry.

Question 10: Most of the small mine operators we work with have done zero sampling over the years and have relied on MSHA to perform sampling and see if they have a problem. MSHA's sampling of them (most of them) has been below the PEL in the past but will be above the new action level. They all need baseline sampling to understand exposures. We are currently booked for IH work for 6 months because many of them want to understand exposure. There will be a huge backlog of IH work with only a few IH companies in this industry. OSHA gave general industry 2.5 years, and we have been offered 120 days. It will take years to get everyone up to speed. I propose at least 3 years for MNM or abolish the proposed rule. With coal, you can do 120 days as they have already been quarterly sampling.

Question 11. MSHA should do away with the action level. This would help reduce costs that mine operators will see. We don't know yet for our clients and future clients as they have not been sampling much, but many respirable dust samples are below 50 ug/m3.

This is taken from NIOSH's Hazard Review – Health Effects of Occupational Exposure to Respirable Crystalline Silica.

"*Over a 40- or 45-year working lifetime, workers have a significant chance (at least 1 in 100) of developing radiographic silicosis when exposed to respirable crystalline silica at the Occupational Safety and Health Administration (OSHA) permissible exposure limit (PEL), the Mine Safety and Health Administration (MSHA) PEL, or the National Institute for Occupational Safety and Health (NIOSH) recommended exposure limit (REL).**"

See footnote which says "**See appendix for the OSHA and MSHA PELs. The NIOSH REL is 0.05 mg/m3 as a time-weighted average (TWA) for up to a 10-hr workday during a 40-hr* workweek."

NIOSH states that there is a significant chance of developing radiographic silicosis when exposed to silica at **(not below)** OSHA's PEL, MSHA's PEL and NIOSHs REL over a 40 – 45 year period. At the time this document was published, both MSHA's & OSHA's PELs were around 100 ug/m3 and NIOSH's REL was, and still is, 50 ug/m3. There is no justification for any action level below 50 ug/m3. MSHA nor NIOSH has offered any evidence that exposures less than 50 ug/m3 is a hazard to miners.

The NIOSH REL of 50 ug/m3 is for a 10-hour day during a 40-hour work week. MSHA states that they are following NIOSH's guidance in establishing the PEL in accordance with the REL. However, they are adjusting it to an 8-hour day, not a 10-hour day like NIOSH. By doing this, they are not following NIOSH's guidance. Saying that MSHA is using NIOSH's REL of 50 ug/m3 is **deceiving and untrue** when they are using an 8-hour calculation since the REL is intended for a 10-hour shift.

If MSHA were to follow NIOSH's guidance and set the PEL at 50 ug/m3 calculated to a 10 hour shift, then the PEL for a 12-hour shift would be 41.7 ug/m3 (41.7 x 720/600 = 50). This would be following NIOSHs recommended REL.

Questions 13 and 14 (see notes above that answer these questions based upon 7000-1 submittals): We don't need a change in the PEL or AL. We have roughly 2 diagnosed cases annually in MNM with about 285k miners. Many of these were diagnosed because of x-rays with no adverse health effects, and some were smokers, which can affect the diagnosis. In MNM, we are trending in the right direction, even as more companies require annual X-rays and medical exams. Our time and energy would have a much higher impact if we focused on immediate health and safety concerns. We have had 30 miners killed this year. Let's put our energy into protecting them, where we can make a difference.

Question 15: I am unsure why this is even a question. The rotation of miners is accepted by everyone except MSHA in this proposed standard. As long as miners are below the PEL (that is the reason why we have a PEL, is it not?), then their exposure meets the standard. This will affect a few of our operators substantially. I will refer to NIOSH to answer this question. (acfrw) Click the link in brackets to follow it.

Question 16: See costs above in question 8.

Question 18: What does proper IH sampling protocol dictate? Representative data. You can't control the days when you sample. We have had MSHA show up to sample our facilities on rainy days, and guess what? They still sampled. You try and get good sampling data, but you can't predict the weather. Many operators will not have an IH on staff due to the high costs associated. We try to sample the best days, but sometimes, you just have to gather data. Dictating specific conditions will not benefit the industry or MSHA.

Question 19: We have many operators that shut down in the winter or that operate portable crushers and move frequently. Due to the time to sample and shutting down from winter, I think an exemption should be put in place to remove portable and seasonal workers from this new standard if they are shut down for more than 3 months out of the year or operate in a pit for less than 30 days before moving. Here is why. If you are in a pit for less than 30 days, you will not be able to sample your employees and get the results to install engineering controls anyway. This would be pointless for them. For mines that are seasonal and shut down during the winter, look at the cases of silicosis for them on the attached 7000-1 forms. They don't get cases of silicosis in MNM. We would be saving no lives at a huge cost. Let's focus on teaching them safety and health and how to prevent immediate deaths instead because many of these have fatalities from accidents.

Question 20: 180 days will not be possible for any mine to achieve. Small mines will need support, and large mines must hire and train to meet this standard. 3 years is a minimum to meet this standard. See the OSHA written standard for recommendations as they were given 2.5 years in general industry to meet this standard.

Question 21: MNM miners will not be unnecessarily exposed because even before this standard goes live, they aren't exposed. See attached data for proof in 7000-1 forms.

Question 28: The rest of the known IH world uses representative sampling because you can't sample every one. We are working with our clients to develop similar exposure groups (SEG's) for sampling. This is how IH's manage work by breaking them out. This is also what MSHA did in the proposed silica rule

when it was written. They combined 280ish jobs into 11 job categories or SEG's or representative groups. I don't know why this is even a question.

Questions 32-36: See costs above to answer these questions and refer to the 7000-1 forms that are attached. Medical surveillance costs are not needed, nor should they be required. In MNM, we don't have issues with silicosis cases.

Questions 37-39: The OSHA standard was basically copied and pasted into the proposed silica standard except for this section. I am not sure why. Let's follow the OSHA standard for this section as they did all the research. We can adopt the ASTM standard, but let's let respirators be used as the last line of control for operators.

These are all the questions we are commenting on. Again, I would like to refer to the attached documents for actual cases of silicosis in the past 20 and 10 years in MNM mining. In mining, we should focus on Return on Investment (ROI), like the rest of the world does. We will probably not drop the diagnosed cases of silicosis below 20 due to miners' smoking, asthma cases, and other contributing factors. We can drop the fatalities we see every year. If we took the effort and energy we will have to input to meet this proposed standard and focused on immediate safety concerns; we would save hundreds of more miners' lives. Isn't this what MSHA is about?

Please consider my comments, as the impact of this standard for MNM will be significant, especially for these small mine operators, and will shut down many mines if it goes through with no real benefit for the MNM mining industries.

Thanks,

DJ Schmutz