

COMMENTS SUBMITTED BY RICHARD MILLER¹
NOTICE OF PROPOSED RULEMAKING BY THE MINE SAFETY AND HEALTH ADMINISTRATION
(MSHA)
U.S. DEPARTMENT OF LABOR
“LOWERING MINERS’ EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA AND IMPROVING
RESPIRATORY PROTECTION”
RIN 1219–AB36

I. Overview

MSHA’s initiative to issue a respirable silica standard with is five decades overdue. It properly covers both coal and metal/nonmetal (MNM) mines. Assistant Secretary Williamson’s leadership advancing this standard is welcomed. Both the 50 µg/m³ Permissible Exposure Limit (PEL) (using an 8-hour time weighted average) and the 25 µg/m³ action level are appropriate and have precedent in OSHA’s 2016 silica rule (29 CFR 1053). There is no reason miners should have inferior protections from respirable silica compared to workers in general industry.

However, as discussed below, unless the rule requires more frequent and timely exposure monitoring, it cannot live up to its potential, and will not assure “that no miner will suffer material impairment of health or functional capacity even if such miner has regular exposure to the hazards dealt with by such standard for the period of his working life”.

It is well within MSHA’s authority, based on the legislative history of the Mine Act, to issue a technology forcing standard that requires operators to use best available technology-- including technology that is off-the-shelf or on-the-horizon. Off-the-shelf technology now includes the NIOSH-developed rapid quartz monitor (RQM) which, when paired with end-of-shift sampling in coal mines, would facilitate more frequent sampling and far more rapid correction of hazardous conditions than could be achieved with the proposed quarterly monitoring regimen. This approach is feasible, is superior to what is proposed in the rule, and does not displace traditional monitoring and lab analysis as a means of validation.

II. Statutory Framework

Section 101(a)(6) of the Federal Mine Safety and Health Act of 1977 (Mine Act) sets forth the criteria for issuance of a mandatory standard for toxic substances:

The Secretary, in promulgating mandatory standards dealing with toxic materials or harmful physical agents under this subsection, shall set standards which most adequately assure on the basis of the best available evidence that no miner will suffer material impairment of health or functional capacity even if such miner has regular exposure to the hazards dealt with by such standard for the period of his working life. Development

¹ Until 2022, Richard Miller served as the Labor Policy Director for the House Committee on Education and Labor. During his tenure on the Committee, he conducted oversight on MSHA’s enforcement, its actions to prevent coal miners’ pneumoconiosis, the adequacy of the Mine Act, and needed reforms to the Black Lung Benefits Act. He can be reached at richard.dana.miller@gmail.com

of mandatory standards under this subsection shall be based upon research, demonstrations, experiments, and such other information as may be appropriate. In addition to the attainment of the highest degree of health and safety protection for the miner, other considerations shall be the latest available scientific data in the field, the feasibility of the standards, and experience gained under this and other health and safety laws...

III. Monitoring Frequency Must be Increased to Protect Miners from Exposures Over the PEL

Baseline Sampling Is Inadequate: Proposed rule at §60.12 (Exposure Monitoring) requires baseline sampling within 180 days after the effective date of the rule (120 days after publication). Operators can use MSHA sampling data, operator sampling data, or “objective data”, and must conduct sampling for each miner who is or may reasonably be expected to be exposed to respirable crystalline silica “during typical mining activities”.²

The baseline should be representative of the full range of actual and potential conditions. Both NIOSH and MSHA agree that mining conditions change all the time as the strata mined is often not uniform. The quartz content of respirable dust in coal mines varies substantially not only from region-to-region, but even among different sampling locations in the same mine section.

- A joint NIOSH-industry study at the Blackhawk mine reported that respirable silica dust varied from 2.5 percent to 28.9 percent of the total respirable dust (*Use of Field-Based Silica Monitoring Technique in a Coal Mine: A Case Study* (2020)).
- Another study found a disparity of 42% on average for samples within 6 meters (*Respirable coal mine dust characteristics in samples collected in central and northern Appalachia* (2017)).
- A third study *Benefits and limitations of field-based monitoring approaches for respirable dust and crystalline silica applied in a sandstone quarry* (2022), reported that “the quartz content in the dust was found to vary from 14 percent to 100 percent”.
- A fourth NIOSH study *Analysis of the Silica Percent in Airborne Respirable Mine Dust Samples from U.S. Operations* (2014) reported that “in the metal/nonmetal (M/NM) industry, metal and sand and gravel mines showed the highest silica percentage (8.2%, 9.8%) along with the highest variability.”

“Simply employing dust monitors in mill and surface locations and assuming constant and reliable information on silica percentage might induce poor estimation in the exposure to silica” according to NIOSH’s 2014 study. Hence, a single shift sample in each area risks underestimating the number of employees potentially exposed above the action level. Multiple baseline samples should be taken based on the variability in production methods, rates of output and strata.

² See comments below on issues with the terms “Objective Data” and “Typical Mining Activities”.

The rule contains no structured process for MSHA to validate operator collected baseline sampling. MSHA must establish a systematic means to assess whether the operator's baseline sampling plan is adequate given variability in mining/mill conditions.

Under this proposed standard, one of three ways operators can exempt themselves from periodic sampling is if a baseline sample is repeated three months after the initial baseline (§ 60.12(a)(2)(ii)) and the results are below the action level. Unrepresentative baseline sampling could turn this approach into a loophole.

Recommendations:

- With respect to underground coal mines, the rule should clarify that the baseline sampling plan will be reviewed as part of the mine's ventilation plan or an Order.
- Baseline sampling plan needs to be validated by MSHA.
- Baseline sampling plan needs to account for the variability in production processes, silica content of mined material, variability in the strata, and that measurements are taken when processes are operating with maximum potential dust generation.
- Baseline sampling should be repeated quarterly, and not just when there are process changes following a semi-annual evaluation.

Quarterly Periodic Sampling Is Insufficient: As proposed, the three-month periodic sampling schedule for respirable silica is insufficient to assure compliance with the PEL. It is axiomatic that more frequent sampling would produce more timely action to protect miners. The Preamble to this proposed rule states:

“Due to the unique conditions of mining environments, where conditions change quickly and exposures to respirable crystalline silica can vary frequently, MSHA is proposing a three-month periodic sampling schedule (NIOSH, 2014e). This three-month schedule would provide a meaningful degree of confidence that mine operators would recognize quickly when exposures are increasing and approaching the proposed PEL and would respond by implementing additional controls to prevent overexposure.”

The Preamble provides zero scientific basis for the adequacy of a three-month periodic sampling schedule, or why this frequency provides a “meaningful degree of confidence” that exposures over the PEL would be detected.

NIOSH study referenced as “2014e” does not endorse the three-month periodic sampling proposal. What this NIOSH study suggests is that where there is wide variability in mine and mill activities, more frequent monitoring should be considered.

The DOL-Inspector General's report, *MSHA Needs to Improve Efforts to Protect Coal Miners from Respirable Crystalline Silica* (2020), stated that quarterly monitoring is inadequate, and recommended more frequent monitoring where there is wide variability in silica levels. The IG wrote:

Variances in mine geology and mining activities cannot be captured by samples taken under MSHA's current requirement of two or four times a year. Silica levels can vary due to changes in geological conditions (i.e., the mix of rock, silica and coal) as mining progresses, and these infrequent samples only represent the level of silica at a certain point in time. The long gaps between MSHA's required samples allow for possible overexposures to silica that put miners' safety at risk.³

Replicating the policy of long gaps between required operator samples in this rule codifies a flawed approach.

The proposed three-month sampling regimen is strikingly sparse when compared to the frequency of coal mine dust monitoring under the 2014 respirable dust rule. In that rule, during each quarter sampling is conducted during 15 consecutive shifts at 80% of normal production for Designated Operations (DOs) pursuant to §70.208. Similarly, there is a 15-shift sampling regimen for Other than Designated Operations (ODOs); moreover, MSHA can broaden the number of locations to be monitored as part of the ventilation plan. Each quarter operators must sample 5 times in Designated Areas (DA) pursuant to §70.209.

It boggles the mind that the frequency of silica sampling in this proposed rule is a mere 6% to 20% of the monitoring frequency for respirable coal dust even though silica is 20 times more toxic than coal dust and causes faster disease progression.

NIOSH studies recommend the adoption of end-of-shift operator sampling with a Rapid Quartz Monitor (RQM) to detect overexposures in a timely manner. NIOSH's recommended approach is immediately actionable, cost effective, and is facilitated by guidance (NIOSH Information Circular 9533).

This proposed rule should include the following improvements for periodic monitoring:

- MSHA shall review and may require additional respirable silica monitoring in areas or for occupations as part of an MSHA approved ventilation plan (for coal) or Compliance Order (for coal or MNM), in addition to those areas or occupations identified in operator baseline sampling.
- Miners or miners' representatives must have the right to request, as part of any (baseline, periodic or corrective action) sampling, that the operator takes samples of specific miners, specified occupations or designated areas, and to make such results available.
- For areas/occupations of a coal mine with an exposure above the action level, the rule should require routine sampling, such as 15 full shift samples per quarter for DO and ODO, and 5 full shift samples per quarter for each DA, to align with the 2014 rule.

³ This 2020 IG report analyzed at least 10 years for miners with high exposure. "We found silica levels varied between months and years. For example, we found a sample taken for Mine 1 on February 1, 2016, contained 22 µg/m³ of silica, well below MSHA's 100 µg/m³ limit and NIOSH's recommended limit of 50 µg/m³. However, the next sample taken on May 17, 2016, contained 310 µg/m³, over three times MSHA's silica limit and six times that of NIOSH's recommended limit."

- For non-production activities with silica generating potential, such as cutting overcasts, cutting belt channels, cutting a slope, sinking a shaft, or mine construction, the rule should require 15 full shift samples per quarter.
- Results from end-of-shift monitoring (in addition to lab results) must be retained by operators and made available to MSHA and miners in the examination book or on the bulletin board.

Corrective Action Sampling Needs to be Increased to Assure Controls Are Lasting and Effective:

Section 60.12(c) provides that:

Where the most recent sampling indicates that miner exposures are above the PEL, the mine operator shall sample after corrective actions taken pursuant to § 60.13 until the sampling indicates that miner exposures are at or below the PEL.

And the monitoring in § 60.13 (Corrective Action) provides:

Once corrective actions have been taken, the mine operator shall: (i) Conduct sampling pursuant to § 60.12(c); and (ii) Take additional or new corrective actions until sampling indicates miner exposures are at or below the PEL.

The rule contains no minimum number of full-shift samples for validating the corrective action needed to reduce exposures below the PEL. As drafted, the rule allows an operator to implement a corrective action, sample once, and continue activities provided that one sample is below the PEL. This minimalist approach is insufficient to assure corrective actions are sufficient and lasting beyond that single sample.

- MSHA should modify the rule to require end-of-shift monitoring using the RQM in coal mines for at least 15 consecutive days following a corrective action to ensure the PEL is not exceeded and the corrective action is lasting.
- Until the RQM or near real time technology is validated by NIOSH, MSHA should require MNM operators to assure that the corrective action(s) are sufficient and lasting through repeated sampling.

IV. MSHA Should Mandate Coal Operators Use Rapid Quartz Monitors with End-of-Shift Monitoring to Provide More Timely Results and Greater Protection of Miners

Part of the solution for more frequent mandatory monitoring in coal mines is requiring the use of the rapid quartz monitor (RQM) to conduct monitoring at the end of a shift. This is off-the-shelf technology that has been further developed by NIOSH, successfully deployed in Appalachian coal mines, and has been found to be highly cost effective. The Preamble summarily dismisses this option:

“The current RQM monitor, however, was designed as an engineering tool; it is not currently designed as a compliance tool with tamper-proof components and is susceptible

to interferences which can affect its accuracy. This means that the integrity of the sample cannot be guaranteed, and therefore the monitor cannot be used as a compliance tool. MSHA continues to support NIOSH efforts to develop the RQM monitor for use in mines.”

This conclusion is not well-supported as enumerated below—particularly, given the demonstrated use of RQMs in coal mines. Accordingly, MSHA is urged to reconsider exclusive reliance on outside labs for silica analysis in coal mines given the state of science.

- 1) *Tamper Proof*-- Tampering is a significant problem. But the objection that the RQM cassettes are not tamper-proof is a red herring. The proposed rule requires the use of ISO approved samplers in § 60.12(f)(4); however, many of the ISO-approved samplers allowable under this rule are not “tamper” proof, according to experts. For example, the SKC Aluminum Cyclone, the GK2.69, and Higgins-Dewell Style BGI-4L Cyclone are not tamper proof according to experts. On the one hand, MSHA is allowing operators to use ISO-approved devices that are not tamper proof, but on the other is arguing the RQM sampler must be tamper proof.

If operators intend to be unscrupulous (as demonstrated by the most recent criminal cases involving D&H Mining, managers at Armstrong Coal, and Black Diamond Coal), there are other ways to game the sampling process even if the samplers are all tamper proof. Operators (not MSHA) control when the samplers are worn, whether they are stored in a lunch box, if they are removed from miners before the end of the 8-hour shift, or hung in a low dust area. Only when MSHA takes samples is there a high certainty of objective measurements. How MSHA plans to assure operator integrity is not provided in the rule.

- 2) *Accuracy* --Second, the accuracy of the RQM is consistent with lab results using MSHA P-7 analysis using the same sample, according to the NIOSH case study at the Blackhawk coal mine (2020 study cited above). Other studies funded by NIOSH and conducted in conjunction with the mining industry shows a “strong correlation” between the RQM and results obtained by using the MSHA P-7 standard.

This close alignment between the field and the lab is unsurprising because the same infrared technology (FTIR) in the field instrument is the same as that used in a lab for coal mine dust samples. Even if the difference was 2% to 5% between the field and laboratory, the difference from an enforcement perspective is negligible, inasmuch as the results from samples taken by mine operators under this rule are not enforceable, except when an operator fails to take corrective action when lab results are greater than the PEL.

Ideally, the rule would also require laboratory analysis as a validation for a portion of the end-of-shift results obtained by RQM, which is feasible because the RQM uses non-destructive testing. The advantage to miners’ health is obvious: corrective actions can be taken immediately, instead of waiting for the next quarterly sample plus one to two weeks waiting for laboratory results.

It is troubling that none of the studies showing statistically close alignment between the RQM and MSHA’s laboratory method were discussed in the Preamble. This rule would be significantly improved if MSHA adopted an evidence-based approach regarding the RQM and end-of-shift monitoring in coal mines.

- 1) *Interferences*--Third, based on multiple NIOSH studies, including the study at the Blackhawk Mine (2020 case study above), the problem with interferences does not appear to be a barrier to deployment of RQM at coal mines. There is a high statistical correlation between the RQM and laboratory analysis.

With regards to MNM mines, interferences can impact accuracy, but NIOSH studies show site specific calibration of an RQM can improve performance at MNM mines allowing more timely interventions. A 2018 NIOSH study at 3 northwest MNM mines found: “The results indicate that mine-specific calibration factors can improve the level of agreement between respirable crystalline silica concentrations determined via a field-based end-of-shift FTIR method compared to traditional XRD (X-ray diffraction in the laboratory) analysis (*A comparison of respirable crystalline silica concentration measurements using a direct-on-filter Fourier transform infrared (FT-IR) transmission method vs. a traditional laboratory X-ray diffraction method*, (2018)). As this technology is further refined, this rule should set in place triggers that would require MNM mines to use RQM.

- 2) *Emerging Technology*--Fourth, the Preamble inaccurately states that “The NIOSH’s rapid field-based quartz monitoring (RQM) approach is an emerging technology.” The RQM instrument is produced by multiple vendors who use the same infrared technology (FTIR) already used in labs.

There are multiple vendors who sell portable FTIRs, and their accuracy and reproducibility measuring respirable crystalline silica compared favorably. A NIOSH funded study, *Performance Comparison of Four Portable FTIR Instruments for Direct-on-Filter Measurement of Respirable Crystalline Silica* (2020) found that each of the four instruments (Thermo Fisher, Agilent, Bruker and Perkin Elmer) were able “to generate precise and reproduceable direct on filter analysis results of respirable dust samples.”

The Zefon EoS (End of Shift) silica cassette was designed to work with the new NIOSH silica monitoring approach using a portable FTIR and can be purchased online. Air samples are taken using a traditional cyclone and the EoS cassette. After sampling, the inlet and outlet of the cassette are removed. The middle section is then placed into a portable FTIR for a direct-on-filter analysis. The results are interpreted through a software program developed by NIOSH called FAST (Field Analysis of Silica Tool).

V. **MSHA Is Legally Authorized to Issue a Technology Forcing Rule to Improve a Health Standard with Feasibility as a Consideration**

Section 101(a)(6) of the Mine Act requires that the Secretary, in promulgating a standard, attain the “highest degree of health and safety protection for the miner” with feasibility a consideration.

With respect to “feasibility”, the legislative history of the Coal Act contemplates technology-forcing standards and standards. As stated in MSHA’s final 2014 respirable dust rule (Federal Register Volume 79, Number 84):

While feasibility of the standard may be taken into consideration with respect to engineering controls, this factor should have a substantially less significant role. Thus, the Secretary may appropriately consider the state of the engineering art in industry at the time the standard is promulgated. However, as the circuit courts of appeals have recognized, occupational safety and health statutes should be viewed as “technology forcing”, and a proposed health standard should not be rejected as infeasible “when the necessary technology looms on today’s horizon.” *AFL-CIO v. Brennan*, 530 F.2d 109 (3d Cir. 1975); *Society of Plastics Industry v. OSHA*, 509 F.2d 1301 (2d Cir. 1975), cert. denied, 427 U.S. 992 (1975). (emphasis added)

In the case of the 2014 respirable dust rule, MSHA required monitoring technology that was looming on the horizon but was not yet available for sale on a commercial basis. To force this technology into use, MSHA phased in the Continuous Personal Dust Monitor (CPDM) over several years. With this approach as precedent, MSHA should modify § 60.12 to require operators to adopt (or phase in) best available technology, such as end-of-shift monitoring using the RQM in coal mines.

With regards to feasibility, the economics of the RQM instrument is attractive, and would not be burdensome to coal operators to achieve far more frequent monitoring. The reason the economics works well is that the RQM instrument is not prohibitively expensive. Each machine costs \$20,000-\$25,000 and can service an entire mine or group of mines. According to NIOSH, it takes only 200-250 samples sent to a lab (at ~\$100 per lab sample) to break even deploying an FTIR instrument. No cost analysis for use of RQMs was included in the economic analysis for this rule. (Attached is a 2018 cost analysis prepared by NIOSH and presented at a Congressional briefing.)

VI. The Cost of Delay to Miners Health by Failing to Implement End-of-Shift Monitoring

Since the proposed rule relies exclusively on traditional air sampling followed by laboratory analysis, results will not be available for several days to several weeks after sampling. This delay prevents timely and effective intervention, if needed, to protect miners’ health.

Moreover, by mandating that operators only use off-site labs, the rule also implicates a new set of harms mandated by this rule: following corrective action, but before results are back from a lab, miners will be needlessly being forced to wear respirators on a “temporary” basis, as opposed to having timely end-of-shift monitoring to facilitate more rapid return to a respirator-free working condition.

VII. Key Terms in the Proposed Rule Are Ambiguous and Open to Manipulation

The rule needs to define key terms or risk that vague terminology will be unenforceable, subjected to protracted litigation, or could allow operators to place miners at avoidable risk.

Typical mining activities— The term “typical mining activities” is used in § 60.12 (Exposure Monitoring) to specify conditions when baseline samples are taken, but the adjective “typical” is a term that is all at once subjective, open to numerous interpretations, and subject to litigation. The term merits a definition in § 60.2 so that operators and miners know what is a “typical mining activity”, and what is not. The following questions need clarification:

- a) What percent of full productive capacity must be operational for activities to be deemed “typical mining activities”? Is it 50%? Is it 80%? Is it 90%. Is it the average? Who makes this determination?
- b) Do “typical mining activities” include slope mining, even though a slope may not be cut every year? Does it include construction activity? Does it include maintenance work? Retreat mining? The rule does not spell this out expressly. These activities should be clarified in a definition in § 60.2.
- c) At least with regards to coal mining, the term “typical mining activities” should be clarified to include activities covered under the term “normal production shift” (a term which is carefully defined in § 70.2 of the 2014 respirable dust rule.)
- d) Do all dusty activities fall under the definition of “typical mining activities” or are some excluded?
- e) The modifier “typical” is also used in the Preamble with regards to (a) “typical mining conditions” and to (b) “typical workday”. Neither of these are defined, but if they are mean to imply “average”, then the rule fails to address the full range of activities.

Whether in coal or MNM, the level of production has a significant impact on quantity and duration of dust generation. As production increases, the amount of generated respirable dust also increases. A production-level threshold—in addition to dust producing activities such as blasting, drilling, excavation, cutting overcasts, or shaft sinking-- should ensure that exposure conditions are comparable between sampled and unsampled shifts. Operators should not be able to pick and choose what level of production they want to use for sampling, otherwise MSHA will be unable to prevent operators from gaming the system by cutting back production—and dust levels—when sampling.

With respect to coal, MSHA should be guided by and incorporate definitions from § 70.2 of the 2014 respirable dust rule in setting the definition of “typical mining activities”. That rule states that a “*normal production shift*” is a production shift during which the amount of material produced by an MMU is at least equal to 80 percent of the average production recorded by the operator for (1) the most recent 30 production shifts or (2) for all production shifts if fewer than 30 shifts of production data are available. As the final 2014 rule states:

The 80 percent production level reflects typical conditions under which miners work, particularly in combination with the final rule’s requirement that operators sample miners during the entire time that miners work.

In the 1995 Criteria Document, NIOSH recommended that for a production shift to be considered a “normal production shift” it must produce at least 80 percent of the average production over the last 30 production shifts. The 1996 Dust Advisory Committee recommended that respirable dust samples be taken when production is sufficiently close to normal production, which it stated should be defined as 90 percent of the average production of the last 30 production shifts. A metric is needed to define “typical mining activities” in coal and MNM.

“Objective data”— “Objective” data, as defined in § 60.2 (Definitions), can be used by operators under Section 60.12 (Exposure Monitoring) to establish a baseline, which, in turn, will determine whether three-month periodic sampling is required or not. Although the proposed definition of “objective data” allows “industrywide surveys”, it does not say whether these studies must be conducted by MSHA or NIOSH. Can industrywide data generated by operators serve as “objective data”? Similarly, it allows the use of calculations in lieu of sampling, without saying who performed the calculations. Will the rule require these to be performed by MSHA or NIOSH? Or can an operator’s calculations serve as “objective data”?

The Preamble asks whether “objective data” should be allowed in lieu of a second set of baseline samples. Unless the data is generated by NIOSH/MSHA under the full range of potential conditions/strata, so-called objective data should not be relied upon as a predicate to exclude periodic sampling.

“As a Temporary Measure”—Under § 60.14 (Respiratory Protection) the rule requires operators to “use respiratory protection as a temporary measure” when “working in concentrations of respirable crystalline silica above the PEL while: (1) Engineering control measures are being developed and implemented; or (2) It is necessary by the nature of work involved.” The rule does not define the term “temporary”. While there may be circumstances where the nature of the work requires respirators; however, if the duration is deemed “temporary”, it could easily be weeks or months depending on the operator schedule for corrective actions. Operators are given license to impose this “temporary” mandate—rather than withdraw miners from the hazardous condition until the condition is corrected. (Those required to conduct corrective actions can understandably be required to wear a respirator).

In many mine environments—particularly when it is hot or there is low coal--respirators impair visibility, interfere with communications, are uncomfortable to wear for 8-hour shifts, and should not be deemed the default option. The default in this rule to favor respirators on an ill-defined “temporary” basis is at odds with a key precept in the Mine Act which calls for reducing respirable dust levels. Section 202(h) of the Mine Act states: “Use of respirators shall not be substituted for environmental control measures in the active workings.” Indeed, MSHA properly rejects the wearing of respirators as a method of compliance in the Preamble to 60.11 (Methods of Compliance), but seemingly contradicts this in 60.14.

VIII. Electronic Reporting to MSHA by Outside Laboratory of Silica Analysis Under this Rule

The rule requires operators to use approved laboratories to conduct analysis of silica samples. The rule should require that operators require their labs to electronically transmit the results

directly to MSHA at the same time they are transmitted to the operator. This will improve assurance that data is not lost or discarded (intentionally or not), and alert MSHA in a timely manner if there is a problem. MSHA already receives CPDM data electronically under the respirable coal dust rule and could expand the agency's capacity to electronically receive lab results for silica samples from the labs.

IX. Records Retention

In § 60.16, the proposed rule provides 2 years for records retention. Exposure data should be retained and be recoverable for 30 years, as it is under OSHA regulations at 29 CFR 1910.1020. Given the long latency of lung diseases, it is imperative that records be retained for 30 years in the event a miner wishes to file a workers' compensation or other type of claim. Records should be provided upon termination of employment, without terminating employee needing to make the request. There is no policy reason to have inconsistent records retention requirements in DOL.

X. Notification of Availability of Records

MSHA should require that operator or its contractor(s), upon an employee's entering employment, and at least annually thereafter, inform current employees of the following:

- a) The existence, location, and availability of any silica exposure records (both personal and area monitoring);
- b) The person responsible for maintaining and providing access to these records; and
- c) Each employee's rights of access to these records.

This approach would mirror that adopted by OSHA for exposure records.

XI. Employee Rights Need to be Expanded Under the Medical Surveillance Provision

Section 60.15 (Medical surveillance for metal and nonmetal miners) requires MNM operators to offer medical examinations. MSHA is commended for this including this requirement. Medical exams are voluntary for current MNM miners and those who have previously worked in the industry under 60.15(b). However, under 60.15(c) the rule makes periodic lung exams mandatory for miners new to the industry; most troublingly, this requirement could be treated as a condition of employment if a miner refuses the periodic exam or refuses to go to the clinic selected by the operator—resulting in termination. This unintended result should not be allowed. Although the policy on its face precludes operators from reviewing employee's medical results, employer coercion can compel miners to surrender this information. For that reason, the rule should be modified to make it voluntary for MNM miners, as it is today in coal, and to improve confidence, it should allow miners to select the examining physician.

- Miners should have the right to select their own doctor for periodic medical examinations, rather than having the operator select the physician or provider group.
- Periodic examinations for both current and new MNM miners should be voluntary.

XII. Conclusion

The science is clear: scourge of silica-related disease is ravaging miners' lungs. MSHA's proposed rule with a 50 µg/m³ PEL is a welcome, but incomplete step. Given that silica dust is 20 times more toxic than coal dust, MSHA is urged to revise its monitoring requirements; phase in more frequent monitoring like that provided in the 2014 respirable dust rule; and require technologies that will provide more timely monitoring results (e.g., end-of-shift monitoring and analysis with a RQM). By pushing out a demonstrably insufficient standard, MSHA breaches its duty to assure that "no miner will suffer material impairment of health or functional capacity even if such miner has regular exposure to the hazards dealt with by such standard for the period of his working life."

Attachment: Presentation entitled "The field-based crystalline silica monitoring approach saves more as sampling increases" that was presented to a 2018 Congressional briefing by NIOSH.