February 11, 2014

OSHA Docket Office
Docket No. OSHA—2010-0034
U.S. Department of Labor
Room N-2625
200 Constitution Avenue, NW
Washington, D.C. 20210

Re: Comments of the National Stone, Sand & Gravel Association:
Notice of Proposed Rulemaking for Respirable Crystalline Silica
78 FR 56274-56504 (Sept. 12, 2013); 78 FR 65242-65244 (Oct. 31, 2013); 79 FR 4641-4642 (Jan. 29, 2014).

Dear Sir or Madam:

The National Stone, Sand & Gravel Association (NSSGA) submits the following comments on the Occupational Safety and Health Administration's proposed rule (proposal) on occupational exposure to respirable crystalline silica (silica).[1]

NSSGA represents the crushed stone, sand and gravel (construction aggregates) industry. Many of our vertically integrated company members incorporate aggregates into concrete using Portland cement or asphalt cement. OSHA's proposal—which is estimated to cost billions of dollars and thousands of jobs annually—thus directly impacts many of our members' operations and virtually all of their customers' operations. However, the majority of aggregates facilities are

[1] NSSGA filed requests with OSHA on Sept. 26, 2013 and on Nov. 18, 2013, in which we asked for a minimum 90-day extension of the public comment period for the proposed rule. We continue to assert that the volume and complexity of the OSHA proposal and its supporting information has rendered it impossible for NSSGA to deliver a complete and meaningful response within the initial time frame and the 47-day and 15-day extensions granted by OSHA. NSSGA reserves the right to make additional comments on all aspects of the OSHA proposal including oral comments at public hearings and post-hearing written comments.

regulated by the Mine Safety and Health Administration (MSHA). MSHA's intent to initiate silica rulemaking for the mining industry is a matter of public record, and that agency will largely rely on OSHA's regulatory analysis to do so.[2]

Accordingly, our comments have significant relevance to OSHA rulemaking and to future MSHA rulemaking efforts. For the purposes of these comments, however, where we talk about construction aggregates operations (e.g., crushed stone, sand, or gravel facilities) we have tried to restrict our answers to subjects of significant potential overlap among MSHA-regulated operations and the OSHA-regulated operations that are the direct subject of this proposed rule.

NSSGA members are committed to providing a safe and healthful work environment for their employees, whose daily efforts in today's economy provide vital support to their families and the communities in which they live. Our members' highest values concern the safety and health of those who they employ. As the most obvious example, the Injury and Illness Incidence Rate for the aggregates sector of the mining industry has declined for each of the last 12 years. Currently at 2.17, the rate is almost half its value a dozen years ago.[3]

Crystalline silica is an issue of longstanding concern to NSSGA, and one in which we have been involved for many years. Silicosis has plagued the world for centuries. Yet, since the current OSHA limit took effect in 1971, silicosis-related deaths in the U.S. have dropped by more than 93%. NSSGA members were not are not satisfied with that, however, and in 1996 formally and publicly committed with then Labor Secretary Robert Reich to completely eliminate silicosis from our industry.

Toward fulfilment of that goal, NSSGA years ago adopted a comprehensive *Occupational Health Program* (OHP) for its members that is focused on measuring

[2] U.S. Department of Labor, Semiannual Agenda of Regulations, Nov. 26, 2013, pp. 48-49. MSHA's Regulatory Plan states, in part, "MSHA intends to use OSHA's work on the health effects and risk assessment, adapting it as necessary for the mining industry."

[3] The Injury and Illness Incidence Rate is the computed number of recorded workplace injuries or illnesses per 200,000 work hours. U.S. Department of Labor figures show that the aggregate industry's 2011 incidence rate (then 2.27; latest available information from DOL) was, for example, lower than the 2011 rate for real estate services and retail clothing establishments.

and reducing workplace silica exposures by emphasizing engineering controls. The elements of this program have been used successfully for decades by many of our members; it has been available to every stone, sand, and gravel producer for many years, regardless of whether they are NSSGA members.

NSSGA also partnered with MSHA in 1997 and has since hosted dozens of dust and noise sampling workshops. These three-day, hands-on, intensive classroom and field training events help enable all members to measure and reduce silica exposures in their own operations. The combination of these and many other exposure-reducing activities (including ever-increasing levels of plant automation) are in part responsible for the very low incidence of silica overexposures in U.S. stone, sand, and gravel operations—approximately 3% according to MSHA's most recent monitoring data.

NSSGA's member-driven Safety & Health Committee consists of almost 200 company representatives. They meet regularly in person and by telephone to share the benefits of each company's safety and health successes and lessons from the occasional disappointment in safety and health performance.

Summary of NSSGA Response to the Proposed Silica Rule

NSSGA strongly recommends that OSHA retain the current 100 μg/m^3 PEL. We believe that an objective rendering of the relevant scientific evidence demonstrates that the existing 100 μg/m^3 PEL provides adequate protection when it is fully complied with and fully enforced.[4]

[4] While isolated cases of silicosis still occur in the U.S., they can be attributed to the higher workplace exposures that were prevalent three and four decades ago and to widespread occupational exceedances of the current PELs. OSHA's own data show that, year after year, an average of about 30 percent of the silica air samples taken by OSHA's compliance inspectors exceed the current PELs, many by a factor of two, three, or more. It is incumbent on OSHA to examine the details of the most recent silicosis cases reported by the CDC to determine the nature of their silica exposures (e.g., occupational history, degree and duration of exposure, age when diagnosed, etc.).

While we acknowledge that OSHA may lack sufficient resources to enforce the current PEL across all industry, lowering the current PEL and imposing an even lower Action Level will not improve compliance; it will do the opposite. Instead, OSHA should require employers to formally assess exposures and to control those exposures that exceed the current PEL; and to maintain the results of such assessments for inspection by OSHA compliance officers. Employers should provide reasonable medical surveillance for employees with exposures in excess of the current PEL.

NSSGA is a member of the American Chemistry Council's (ACC's) Crystalline Silica Panel (CSP), which has been in existence for 25 years. The CSP consists of 16 trade associations and individual companies with a substantial interest in silica and silica rulemaking. The CSP is submitting comments to OSHA on the proposed rule, particularly relating to silica health effects, the technical and economic feasibility of the proposed standard, silica measurability, and other issues.

NSSGA endorses and adopts the CSP's comments and its attachments.

Of particular concern, there is considerable evidence that many AIHA-accredited commercial laboratories may be unable to provide consistently accurate and reliable results for the silica analyses they perform—particularly for exposures at the proposed PEL and AL.[5] Under the proposal, employers would have to complete initial sampling within 180 days of the standard's effective date. This means that tens of thousands of employers will be forced to rely on a very limited number of commercial laboratories for silica analyses, and then base potentially expensive exposure control activities (including upgrading or installing new engineering controls) on what may be questionable lab results. Additional sampling would follow every three to six months.

It is difficult to imagine that the handful of laboratories presently accredited to analyze silica samples will actually improve the quality of their analyses in the midst of what will certainly be an onslaught of samples and the real or perceived pressure to report results in the least amount of time. This disastrous confluence appears particularly dire because the quality of lab analyses for crystalline silica

[5] See comments on silica measurability submitted by the ACC Crystalline Silica Panel.

depends to a large extent on the fastidious adherence to complex and time-consuming sample preparation processes.[6]

High quality laboratory results also depend on the training, experience, skill, and dedication of the technicians who perform the analyses;[7] yet where will the labs find a sufficient number of fully qualified technicians to meet the analytical demand that the proposed rule will drive?[8] It's more likely that many technicians will get on-the-job training using samples that employers must submit to determine their compliance with the reduced PEL and ever further reduced AL.

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[6] "The measurement of airborne crystalline silica can be challenging. Sample preparation techniques may include complex procedures for reducing mineral interferences, redepositing the sample onto an analytical filter or using the collection filter for analysis (direct-on-filter measurement). Appropriate calibration of the analytical technique and the standard reference materials used for calibration are critical for accurate analyses. Identification of the analyte, whether quartz, cristobalite or tridymite, can be complicated by the presence of mineral interferences. There are several analytical methods to choose from, each having associated particle size effects. Thus, a high degree of attention is required throughout the analysis process. [ ] Prior to any sample preparation step, it is advisable to check the cassette received from the field for adherence of particles to the top or sides of the cassette. In an evaluation of Min-U-Sil 5 samples received in the American Industrial Hygiene Association (AIHA) Proficiency Analytical Testing (PAT) program for Rounds 146-148, it was observed that up to 20% of the total sample was recovered by rinsing the top of the cassette prior to sample preparation." NIOSH *Manual of Analytical Methods*, 15 March 2003, p. 266.

"Because of the complex nature of crystalline silica analysis, it is essential to have a quality assurance program which incorporates strict adherence to standardized procedures. The most important requirement should be following the analytical methods exactly as written." *Id.,* p. 272 (references removed).

[7] "A high level of analyst expertise is required to optimize instrument parameters and correct for matrix interferences either during the sample preparation phase or the data analysis and interpretation phase. NIOSH XRD methods suggest that XRD analysts have some training (university or short course) in crystallography or mineralogy in order to have a background in crystal structure, diffraction patterns and mineral transformation. This is important for understanding the matrix in which the sample was taken." *Id.,* p. 270 (references removed).

[8] "OSHA recognizes that the requirements for monitoring in the proposed rule will increase the demand for analysis of respirable crystalline silica samples." 78 FR 56475 (Sept. 12, 2013).

Importantly, while OSHA acknowledges this discrepancy with its proposed two-year-long catch-up period for analytical labs,[9] no such allowance is afforded for the regulated community that is responsible for achieving any necessary exposure reductions.

We also question the availability, particularly during the first two years of the proposed standard's effective date, of a sufficient number of qualified industrial hygienists and air sampling technicians to collect the enormous number of samples that the regulated community will need for compliance purposes.

For these reasons, we strongly recommend that OSHA withdraw the current proposal for at least two years, and until OSHA provides compelling evidence that: (1) a sufficient number of qualified industrial hygienists and technicians exists who can collect the huge number of silica samples that the regulated community will generate during the first weeks and months of a final silica standard—and, (2) more to the point—that a sufficient number of qualified laboratories exist that can process the samples on a timely basis and consistently provide employers with reliable results.

We also urge OSHA at the appropriate time to reopen the docket to allow submission of the results of an independent case-control silicosis radiology study now in progress are provided to OSHA.[10] Completion of the study is expected during the third quarter of 2014.

In addition to the preceding general comments, NSSGA offers the following specific responses to select questions raised in OSHA's proposal. We have followed OSHA's question numbering sequence that appears on pp. 56284-56291 of the proposal.

[9] Paragraph (k)(2)(iii). 78 FR 56490 (Sept. 12, 2013).

[10] See Comments of the National Industrial Sand Association (NISA) regarding the proposed rule. NSSGA contributed financially to the NISA research project.

I. Issues

Technological and Economic Feasibility of the Proposed PEL

11. Have there been technological changes within your industry that have influenced the magnitude, frequency, or duration of exposure to respirable crystalline silica or the means by which employers attempt to control such exposures? Describe in detail these technological changes and their effects on respirable crystalline silica exposures and methods of control.

Response:

The history of the aggregates industry is one of increasing automation. Just to cite a few examples:

It is not uncommon now days for a handful of employees working in a central control room (with a conditioned environment) to perform the tasks previously undertaken by a large crew that was deployed across vast operating areas.

Widespread use of closed-circuit television (CCTV) cameras positioned in critical areas allow operators to view equipment and production processes from the safety of a control room—thereby reducing routine inspections that were once performed by maintenance personnel on foot.

Automated conveyor systems are stopped and started remotely or shut down automatically when a problem is detected, reducing human intervention and potential dust exposures or injuries.

Mechanical screen vibrators reduce the need for workers to clear blinded screens in potentially dusty conditions.

Automation R&D projects now focus on driverless vehicles for certain applications, thereby eliminating silica exposures for whole groups of employees (automation almost always reduces the workforce required to produce the same or greater quantities of aggregates).

We expect these trends to increase, and likely to accelerate if the proposed PEL and AL become final. That is because automation technologies that reduce silica exposures may become economically more attractive to employers than other means of compliance—such as engineered process enclosures and mechanical exhaust ventilation (both involving high capital cost, recurring operating energy costs, and employee-intensive maintenance requirements); continuous dust suppression with increasingly scarce water; respiratory protection programs (with attendant medical surveillance requirements); employee training, etc.

13. Has your industry or firm used outsourcing or subcontracting, or concentrated high exposure tasks in-house, in order to expose fewer workers to respirable crystalline silica? An example would be subcontracting for the removal of hardened concrete from concrete mixing trucks, a task done typically 2-4 times a year, to a specialty subcontractor. What methods have you used to reduce the number of workers exposed to respirable crystalline silica and how were they implemented? Describe any trends related to concentration of high exposure tasks and provide any supporting information.

Response:

Outsourcing typically occurs within the aggregates industry for tasks that are outside the core competency of the company; where it makes economic sense because of the frequency of the task, capital costs and maintenance of the specialized equipment; and for safety reasons. Some of these tasks may involve silica exposures that differ from those normally encountered in routine operations. Examples include:

- Drilling: Quarried aggregate is created by the fracturing (blasting) larger pieces of rocks into smaller ones. The blasting is preceded by drilling into the rock body, backfilling the drill hole with a blasting agent and then blasting. The drilling process may generate visible dust.

- Blasting is a highly specialized activity and is typically outsourced for safety reasons and because of tight restrictions on handling and storage of explosives. Blasting usually generates visible dust.

- Sweeping services are often outsourced. Depending on the age, model, and type of sweeper (wet vs. dry) the employee operating the sweeper may be exposed to dust. Please also see our response to Question 18(b).

- Bag house maintenance. Cleaning or maintaining the inside of bag houses may result in short-term elevated dust exposures.

- Ready-mix concrete truck drum cleaning. Cleaning or maintaining the inside of ready-mix truck drums may result in short-term elevated dust exposures.

Compliance Costs

18(b). OSHA has proposed to limit the prohibition on dry sweeping to situations where this activity could contribute to exposure that exceeds the PEL and estimated the costs for the use of wet methods to control dust. OSHA requests comment on the use of wet methods as a substitute for dry sweeping and whether the prohibition on dry sweeping is feasible and cost-effective.

Response:

Sweeping is widely employed in the aggregates industry for cleaning durable surfaces such as roads, buildings, shop floors, and offices. Sweeping outside of buildings often requires wet-vac sweepers although this is not always the norm. Wet-vac sweepers are typically 50 percent to 75 percent more costly to operate than dry sweepers on facility roadways. Typical outsourcing costs for sweeping a facility one time are $200 to $300 (depending on size and site condition) for a dry sweeper and roughly $300 to $400 for a wet-vac sweeper.[11] Facilities that cannot

[11] Values provided by an NSSGA member.

afford to pay the higher cost for a wet-vac sweeper on a regular basis may be forced to sweep less often under a prohibition on dry sweeping.

Shop areas often are swept where equipment maintenance is conducted. Shop floors get dirty from materials tracked into the shop on heavy mobile equipment tires and treads. Shop floors are often swept with a hand broom. Larger shops may have small drive-around dry sweepers.[12] Sweeping is an important housekeeping activity that helps to maintain a safe working environment.

Overlapping and Duplicative Regulations

25. Do any federal regulations duplicate, overlap, or conflict with the proposed respirable crystalline silica rule? If so, provide or cite to these regulations.

Response:

Most business entities must comply with a variety of different regulations (including federal, state, local, and corporate), each with its own trigger points, deadlines, and contingencies. The reality of overlapping federal regulations can be exacerbated by state and local requirements. Several examples follow.

Reducing workplace dust exposures with more aggressive exhaust ventilation could increase the amount of particulate that is emitted from EPA-permitted point sources. National particulate matter standards are set by EPA, and air permits are required by states. Any increase in emissions could require the permit holder to re-permit the source, a process that can be extremely time consuming and expensive.[13]

Using additional water to suppress dust may lead to or increase water run-off that is subject to EPA's NPDES regulations.[14] Currently, water is used to simply dampen

[12] Information provided by NSSGA members.

[13] National Ambient Air Quality Standards (40 CFR 50).

[14] National Pollutant Discharge Elimination System (40 CFR 122).

the surface, whereupon it evaporates requiring more frequent watering. Using additional water to suppress dust may also impact existing Storm Water Pollution Prevention Plans (SWPPP) by capturing oils and other contaminants in the waste stream and result in additional runoff that is outside of permitted conditions. This could lead to questions of non-compliance with existing state and local regulations in jurisdictions throughout the U.S.

Mandated water conservation requirements, particularly during regional water shortages, may interfere with available supplies and make reliance on water as a dust control measure less predictable and increasingly expensive.

Using water as a dust suppressant inside of structures such as a maintenance shops could increase electrical safety hazards and potentially violate OSHA electrical safety standards.

In conflict with proposed rule paragraphs (e)(ii)(C); (e)(2)(ii); and (i), the OSHA Hazard Communication standard already requires employers to establish methods for communicating hazards to workers of other employer(s);[15] to provide methods such as "operating procedures or other written materials" for communicating area hazards;[16] and to provide employees with information and training.[17] These sections of the proposal are duplicative and unnecessary.

Paragraph (g) of the proposal is also unnecessary because it essentially duplicates requirements in the existing OSHA Respiratory Protection standard.[18]

[15] 29 CFR 1910.1200 (e)(2).

[16] *Id.,* at (f)(7).

[17] *Id.,* at (h)(1).

[18] 29 CFR 1910.134.

Alternatives/Ways to Simplify a New Standard

26. Comment on the alternative to new comprehensive standards (which have ancillary provisions in addition to a permissible exposure limit) that would be simply improved outreach and enforcement of the existing standards (which is only a permissible exposure limit with no ancillary provisions). Do you believe that improved outreach and enforcement of the existing permissible exposure limits would be sufficient to reduce significant risks of material health impairment in workers exposed to respirable crystalline silica? Provide information to support your position.

Response:

Under the current 100 μg/m^3 PEL there has been a >90% decline in cases of silicosis since 1968. Existing cases of silicosis are related to ongoing exposures in excess of the current PEL, or are due to legacy exposures among those who entered the workforce decades ago. We believe that an objective rendering of the relevant scientific evidence demonstrates that the existing 100 μg/m^3 PEL with no Action Level provides adequate protection when the PEL is fully complied with and fully enforced. It is incumbent on OSHA to examine the details of the most recent silicosis cases reported by the CDC to determine the nature of their silica exposures (e.g., occupational history, degree and duration of exposure, age when diagnosed, etc.).

While we acknowledge that OSHA may lack sufficient resources to enforce the current PEL across all of industry, lowering the PEL and imposing an even lower Action Level will not improve compliance; it will do the opposite. Instead, OSHA should require employers to formally assess exposures and control any exposures that exceed the current PEL; and to maintain the results of such assessments for inspection by OSHA compliance officers.

27. OSHA solicits comments on ways to simplify the proposed rule without compromising worker protection from exposure to respirable crystalline silica. In particular, provide detailed recommendations on ways to simplify the proposed standard for construction. Provide evidence that your recommended

simplifications would result in a standard that was effective, to the extent feasible, in reducing significant risks of material health impairment in workers exposed to respirable crystalline silica.

Response:

We strongly recommend that OSHA remove the Action Level requirement to simplify the proposed rule.

Please also refer to our response to Question 40.

Environmental Impacts

29. Some small entity representatives advised OSHA that the use of water as a control measure is limited at their work sites due to potential water and soil contamination. OSHA believes these limits may only apply in situations where crystalline silica is found with other toxic substances such as during abrasive blasting of metal or painted metal structures, or in locations where state and local requirements are more restrictive than EPA requirements. OSHA seeks comments on this issue, including cites to applicable requirements.

a. Are there limits on the use of water controls in your operations due to environmental regulations? If so, are the limits due to the non-silica components of the waste stream? What are these non-silica components?

Response:

Many operations have limited water rights due to existing land-use agreements. In such cases it could be impossible to implement engineering controls that require more water than they already use. Additionally, permitted uses under Storm Water Pollution Prevention Plans (SWPPP) would not allow for additional water runoff at the majority of operations without amending existing Storm Water permits and additional engineering controls to manage the additional runoff. Modifying a Storm Water Permit involves costs not only to employers, but also to local and state governments.

Please also see our answer to Question 25.

33. Should OSHA limit coverage of the rule to materials that contain a threshold concentration (e.g., 1%) of crystalline silica? For example, OSHA's Asbestos standard defines "asbestos-containing material" as any material containing more than 1% asbestos, for consistency with EPA regulations. OSHA has not proposed a comparable limitation to the definition of respirable crystalline silica. Is this approach appropriate? Provide the rationale for your position.

Response:

We recommend that OSHA limit coverage of the proposed rule to materials that contain a threshold concentration greater than 1% crystalline silica.[19] There is no inherent conflict with the OSHA Hazard Communication standard requirement for safety data sheets.

The current PEL will still apply in all circumstances where the use or processing of low-silica concentration materials may generate silica dust in excess of that PEL. Moreover, OSHA's current nuisance dust PEL would continue to regulate many low-silica dust exposures.[20]

[19] The European Union made this distinction in their Classification, Labeling and Packaging (CLP) Regulation in 2010. It is necessary for OSHA to align with the EU on this point, since the intent of the new Hazard Communication Standard is to create standardization between the US and the EU when it comes to packaging and labeling of materials under the Global Harmonized System (GHS). As OSHA's proposed rule stands, it is not possible for US employers to align with European Nations when it comes to packaging, labeling and development of Safety Data Sheets (SDSs). Materials that are shipped internationally will have to be re-labeled once they enter/exit the US, and SDSs will have to be modified according to the present standard.

[20] The current OSHA PEL for respirable inert or nuisance dust that contains less than one percent silica is 5 mg/m^3, compliance with which would keep the crystalline silica exposure below approximately 50 $\mu g/m^3$, or 50% of the current silica PEL. 29 CFR 1910.1000, Table Z-3.

Provisions of the Standards

PEL and Action Level

38. OSHA has proposed a TWA PEL for respirable crystalline silica of 50 µg/m^3 for general industry, maritime, and construction. The Agency has made a preliminary determination that this is the lowest level that is technologically feasible. The Agency has also determined that a PEL of 50 µg/m^3 will substantially reduce, but not eliminate, significant risk of material health impairment. Is this PEL appropriate, given the Agency's obligation to reduce significant risk of material health impairment to the extent feasible? If not, what PEL would be more appropriate? The Agency also solicits comment on maintaining the existing PELs for respirable crystalline silica. Provide evidence to support your response.

Response:

We believe that an objective rendering of the relevant scientific evidence demonstrates that the existing 100 µg/m^3 PEL with no Action Level provides adequate protection when the PEL is fully complied with and fully enforced.

Please also see our response to Question 26.

40. OSHA has proposed an action level for respirable crystalline silica exposure of 25 µg/m^3 in general industry, maritime, and construction. Is this an appropriate approach and level, and if not, what approach or level would be more appropriate and why? Should an action level be included in the final rule? Provide the rationale for your position.

Response:

Employers obviously should be free to use internal action levels (ALs) if they elect to do so; however, we oppose a mandatory AL (here defined as 50% of a PEL) on practical and theoretical grounds.

First, the proposed AL presents enormous and unresolved measurability challenges (please also see our response to Question 46). This virtually guarantees that many employers will be required to conduct periodic air sampling on the basis of questionable lab results alone because any single reported result greater than 25 $\mu g/m^3$ would trigger more frequent sampling.

Second, the ISO/CEN modification to the proposed air sampling method would reduce the effective AL to a point that is well below the proposed 25 $\mu g/m^3$. This reduction will further exacerbate the measurability challenges described above and in our response to Question 46.

Third, the putative benefits are based on the assumption that two sample "compliance" with the AL will benefit employees by lowering overall exposures. However, even assuming that lab-reported sample results perfectly represent actual exposures (which even the most charitable view of the sampling and analytical error for respirable crystalline silica shows to be unrealistic), one or even two results below the proposed AL do not necessarily equate to overall lower exposures and it is likely that many such two-sample sub-AL results will occur merely by chance. That is particularly true for underlying exposure distributions that are highly variable and include actual exposures above the PEL and/or AL.[21]

Two-sample compliance with the AL may discourage additional sampling by employers, possibly for years as employers would be obligated to sample only

[21] In the following hypothetical sequence of possible air sample results (expressed as $\mu g/m^3$; values assumed to perfectly represent actual exposures), collected in the given order for a similarly-exposed group of employees, there is a better than four-in-ten chance that any two samples would fall below the proposed 25 $\mu g/m^3$ Action Level: 12, 8, 93, 45, 48, 102, 22, 18, 40, 26, 75, 47, 24, 16. The arithmetic and geometric means (42 and 32, respectively) are both below the proposed 50 $\mu g/m^3$ PEL. The first two sample results are below the proposed 25 $\mu g/m^3$ Action Level—providing justification in the OSHA proposal to stop sampling. (Two other sub-AL sample pairs in this group would provide a similar opportunity to stop sampling.) Yet, three samples are above the proposed 50 $\mu g/m^3$ PEL and one sample is above the current 100 $\mu g/m^3$ PEL; in fact, the underlying lognormal distribution predicts that about one in four sampled exposures would exceed the proposed PEL.

when they became aware of significant workplace changes that could increase exposures. However, infrequent or no sampling on the basis of two-sample AL compliance reduces the chance of discovering potentially greater exposures—including exposures above the PEL.

41. If an action level is included in the final rule, which provisions, if any, should be triggered by exposure above or below the action level? Provide the basis for your position and include supporting information.

Response:

We strongly recommend that OSHA eliminate the Action Level from the proposed rule. Please also see our response to Question 40.

42. If no action level is included in the final rule, which provisions should apply to all workers exposed to respirable crystalline silica? Which provisions should be triggered by the PEL? Are there any other appropriate triggers for the requirements of the rule?

Response:

All provisions should be triggered at the PEL, or only after some defined pattern of sampling results above the PEL has been identified.[22] (Of course, any robust statistical analysis first requires that analytical laboratories consistently provide sample results that are highly accurate and highly precise. OSHA's proposed two-year catch-up period for laboratories that perform silica analyses clearly indicates that the requisite degree of accuracy and precision may not be universal.) Please also see our response to Question 46.

[22] For example, see *A Strategy for Assessing and Managing Occupational Exposures* (American Industrial Hygiene Association, Fairfax, Virginia).

Exposure Assessment

General response:

The proposed requirement to assess exposures for each job title on each work shift should be restricted to those cases in which a significant difference exists between the environment and/or work tasks performed on the different shifts, so that there is a reasonable basis to expect different exposures. For example, if an equipment operator performs exactly the same job tasks using the same equipment and in the same place on one shift compared with another operator on a different shift (and if the processes and work environment do not change across the shifts) there should be no reason that the respective exposure distributions would be any different. The requirement is an unnecessary and costly burden on the operator that will not improve worker health.

46. OSHA is proposing specific requirements for laboratories that perform analyses of respirable crystalline silica samples. The rationale is to improve the precision in individual laboratories and reduce the variability of results between laboratories, so that sampling results will be more reliable. Are these proposed requirements appropriate? Will the laboratory requirements add necessary reliability and reduce inter-lab variability, or might they be overly proscriptive? Provide the basis for your response.

Response:

The proposed requirements for commercial laboratories are imperative. There is considerable evidence that many AIHA-accredited commercial laboratories may be unable to provide consistently accurate and precise results for the silica analyses they perform. Tens of thousands of employers will rely on a very limited number of commercial laboratories for silica analyses and base potentially very expensive exposure control activities (including engineering controls) on the results provided by these labs. The first months and years after the proposed OSHA standard would take effect would be the most critical and active for employers who must determine their employees' exposures vis-à-vis a reduced PEL and an even further reduced AL.

Yet OSHA's proposal would grant these labs a two-year period from the effective date of the standard in which lab performance would have to be improved.[23] Meanwhile, labs could be providing potentially inaccurate and unreliable results to employers. This is a blind-leading-the-blind nightmare in which employers become liable for citation by OSHA for exceeding a PEL or AL—even when relying in good faith on potentially questionable lab results.

Similarly, employers might spend resources reducing exposures they believe to be excessive (or fail to control exposures that truly are excessive) based on inaccurate or questionable lab results. Such a scenario will lead to chaos.

Importantly, while OSHA acknowledges this discrepancy with its proposed two-year-long catch-up period for analytical labs, no such allowance is afforded for the regulated community that is actually responsible for achieving any necessary exposure reductions.

We strongly recommend that OSHA withdraw the current proposal for at least two years, and until there is a sufficient number of qualified laboratories that can process the extremely high number of silica samples that the regulated community will certainly generate during the first weeks and months of a final silica standard.

Please also see our comments on Pages 4-6, above.

47. Has OSHA correctly described the accuracy and precision of existing methods of sampling and analysis for respirable crystalline silica at the proposed action level and PEL? Can worker exposures be accurately measured at the proposed action level and PEL? Explain the basis for your response, and provide any data that you believe are relevant.

Response:

No. Please see our response to Question 46 and the ACC Crystalline Silica Panel comments on measurability.

[23] Paragraph (k)(2)(iii). 78 FR 56490 (Sept. 12, 2013).

Regulated Areas and Access Control

49. Where exposures exceed the PEL, OSHA has proposed to provide employers with the option of either establishing a regulated area or establishing a written access control plan. For which types of work operations would employers be likely to establish a written access control plan? Will employees be protected by these options? Provide a basis for your position and include supporting information.

Response:

Regulated areas and written access controls plans are not feasible in large parts of many dynamic workplaces such as large construction projects and many aggregates facilities. Moreover, certain materials contain silica in amounts that vary significantly with time, making infeasible those attempts to create plans and consistently establish boundaries, or to provide competent persons with the knowledge and experience necessary to make the frequent changes.

50. The Summary and Explanation for paragraph (e) Regulated Areas and Access Control clarifies how the regulated area requirements would apply to multi-employer worksites in the proposed standard. OSHA solicits comments on this issue.

Response:
The OSHA policy on multiemployer worksites[24] and the Hazard Communication Standard sufficiently regulate this condition. This aspect of the proposed rule is an unnecessary addition.

Please also see our response to Question 25.

[24] OSHA Policy CPL 02-00-124, Dec. 10, 1999.

Methods of Compliance

55. OSHA requests comments on the degree of specificity used for the engineering and work practice controls for tasks identified in Table 1, including maintenance requirements. Should OSHA require an evaluation or inspection checklist for controls? If so, how frequently should evaluations or inspections be conducted? Provide any examples of such checklists, along with information regarding their frequency of use and effectiveness.

Response:

Employers should implement exposure controls and conduct routine maintenance of the controls as needed. Checklists are appropriate for certain situations, e.g., confined space entry permits. However, when addressing a chronic health hazard, OSHA should not require an employer to complete a checklist of work practices or technologies at a certain frequency. To do so will not benefit worker health, will create burdensome and unnecessary paperwork for employers, and will shift the focus from control implementation to paperwork completion. OSHA compliance officers should inspect sites to verify that controls are implemented properly, not to check that an operator has a stack of inspection sheets.

60. In the case of rock drilling, in order to ensure that workers are adequately protected from the higher exposures that they would experience working under shrouds, OSHA is proposing in Table 1 that employers ensure that workers use half-mask respirators when working under shrouds at the point of operation. Is this specification appropriate? Please provide the basis for your position and any supporting evidence or additional information that addresses the appropriateness of this specification.

Response:

We recommend that OSHA replace the term “shroud” with “engineered fugitive dust control method, e.g., a shroud, water spray, etc.”

66. The proposed rule prohibits the use of compressed air and dry brushing and sweeping for cleaning of surfaces and clothing in general industry, maritime, and construction and promotes the use of wet methods and HEPA-filter vacuuming as alternatives. Are there any circumstances in general industry, maritime, or construction work where dry sweeping is the only kind of sweeping that can be done? Have you done dry sweeping and, if so, what has been your experience with it? What methods have you used to minimize dust when dry sweeping? Can exposure levels be kept below the proposed PEL when dry sweeping is conducted? How? Provide exposure data for periods when you conducted dry sweeping. If silica respirable dust samples are not available, provide real time respirable dust or gravimetric respirable dust data. Is water available at most sites to wet down dust prior to sweeping? How effective is the use of water? Does the use of water cause other problems for the worksite? Are there other substitutes that are effective?

Response:

Floor-sweeping compounds suppress dust and capture dirt when dry-sweeping. Wet-vac sweepers are often used in shop areas. Please also see our response to Questions 18(b), 25, and 29.

Medical Surveillance

69. Is medical surveillance being provided for respirable crystalline silica-exposed employees at your worksite? If so:

b. Who administers and implements the medical surveillance (e.g., company doctor or nurse, outside doctor or nurse)?

Response:

Employers typically contract these services to third-party providers.

c. What examinations, tests, or evaluations are included in the medical surveillance program? Does your medical surveillance program include testing for

latent TB? Do you include pulmonary function testing in your medical surveillance program?

Response:

We recommend the following elements for medical surveillance:

1. A medical history that focuses on the presence of respiratory symptoms, smoking habits, and risk factors for kidney disease.

2. A comprehensive occupational history that details prior exposure to potentially harmful dusts, chemicals, and other physical agents. Any adverse effects related to these exposures must be recorded.

3. An initial (new-hire) physical examination, and follow-up examinations based on abnormal screening results, to assess the general condition and respiratory status of the worker.

4. A 14-by-17-inch posterior-anterior (PA) chest X-ray, preferably obtained using a high-kilovoltage technique. Films should be classified in accordance with the 2000 Guidelines for the Use of ILO International Classification of Radiographs of Pneumoconioses. Good quality digital chest images reproduced on film are also acceptable.

5. Pulmonary function tests that include spirometric measurements of forced expiratory volume in one second (FEV1) and forced vital capacity (FVC), performed, calculated, and interpreted in accordance with the ATS 1994 Update Standardization of Spirometry and the 2005 ATS-ERS Standardization of Spirometry guidelines.

6. TB testing. Baseline testing with a single QF test upon entry into employment; a single QF test annually for workers with profusion 1/0 or greater.

70. Is the content and frequency of proposed examinations appropriate? If not, how should content and frequency be modified?

Response:

The frequency of exams should be every three to five years.

71. Is the specified content of the physician or other licensed health care professional's (PLHCP) written medical opinion sufficiently detailed to enable the employer to address the employee's needs and potential workplace improvements, and yet appropriately limited so as to protect the employee's medical privacy? If not, how could the medical opinion be improved?

Response:

The PLHCP's opinion should be restricted to fitness-for-duty statements, which specify if an employee is or is not medically fit to perform one or more specific workplace functions or tasks. Work activity restriction statements should specify only the restricted activity or other restrictions, e.g., type of respiratory protection allowed, and the duration of the restriction(s).

72. Is the requirement for latent TB testing appropriate? Does the proposed rule implement this requirement in a cost-effective manner? Provide the data or cite references that support your position.

Response:

Please see our response to Question # 69(c).

73. Is the requirement for pulmonary function testing initially and at three-year intervals appropriate? Is there an alternate strategy or schedule for conducting follow-up testing that is better? Provide data or cite references to support your position.

Response:

Following an initial PFT, the frequency of testing should be every three to five years. Please also see our response to Question # 69(c).

74. Is the requirement for chest X-rays initially and at three-year intervals appropriate? Is there an alternate strategy or schedule for conducting follow-up chest X-rays that you believe would be better? Provide data or cite references to support your position.

Response:

Following an initial chest X-ray, the frequency should be every three to five years. Please also see our response to Question # 69(c).

75. Are there other tests that should be included in medical surveillance?

Response:

NSSGA does not recommend routine testing for kidney disease.

77. Is exposure for 30 days at or above the PEL the appropriate number of days to trigger medical surveillance? Should the appropriate reference for medical monitoring be the PEL or the action level? Is 30 days from initial assignment a reasonable amount of time to provide a medical exam? Indicate the basis for your position.

Response:

The appropriate trigger for medical monitoring should be set for exposures above the PEL (exposure above the PEL for 30 days is appropriate for most aggregates industry employees).

In remote locations, it may take longer than 30 days from initial assignment for all covered employees to receive medical exams.

79. OSHA is proposing to allow an "equivalent diagnostic study" in place of requirements to use a chest X-ray (posterior/anterior view; no less than 14 x 17 inches and no more than 16 x 17 inches at full inspiration; interpreted and classified according to the International Labour Organization (ILO) International Classification of Radiographs of Pneumoconioses by a NIOSH-certified "B" reader). Two other radiological test methods, computed tomography (CT) and high resolution computed tomography (HRCT), could be considered "equivalent diagnostic studies" under paragraph (h)(2)(iii) of the proposal. However, the benefits of CT or HRCT should be balanced with risks, including higher radiation doses. Also, standardized methods for interpreting and reporting results of CT or HRCT are not currently available. The Agency requests comment on whether CT and HRCT should be considered "equivalent diagnostic studies" under the rule. Provide a rationale and evidence to support your position.

Response:

CT and HRCT should not per considered "equivalent diagnostic studies" under the proposed rule. We are unaware of any studies that demonstrate the equivalency of these tests to chest X-rays. CT and HRCT may be appropriate follow-up tests following a positive chest X-ray by a NIOSH-certified "B" reader.

80. OSHA has not included requirements for medical removal protection (MRP) in the proposed rule, because OSHA has made a preliminary determination that there are few instances where temporary worker removal and MRP will be useful. The Agency requests comment as to whether the respirable crystalline silica rule should include provisions for the temporary removal and extension of MRP benefits to employees with certain respirable crystalline silica-related health

conditions. In particular, what medical conditions or findings should trigger temporary removal and for what maximum amount of time should MRP benefits be extended? OSHA also seeks information on whether or not MRP is currently being used by employers with respirable crystalline silica-exposed workers, and the costs of such programs.

Response:

Temporary worker removal for chronic health conditions such as silicosis will serve no health-related purpose. Instead, workplace exposures should be maintained below the current 100 μg/m³ PEL.

81. OSHA has proposed that employers provide hazard information to employees in accordance with the Agency's Hazard Communication Standard (29 CFR 1910.1200). Compliance with the Hazard Communication Standard would mean that there would be a requirement for a warning label for substances more than 0.1 percent crystalline silica. Should this requirement be changed so that warning labels would only be required of substances more than 1 percent by weight of silica? Provide the rationale for your position. The Agency also has proposed additional training specific to work with respirable crystalline silica. Should OSHA include these additional requirements to the final rule, or are the requirements of the Hazard Communication standard sufficient?

Response:

OSHA should limit coverage of the proposed rule to materials that contain a threshold concentration greater than 1% crystalline silica. In its current form, the proposed rule would present an unnecessary level of hardship for those industries that work with materials that contain less than 1% crystalline silica and are unlikely to exceed the PEL.

The proposed additional training for work with respirable crystalline silica is unnecessary because training employees on workplace hazardous substances is sufficiently regulated under the existing Hazard Communication standard.[25]

Please also refer to our response to Question 33.

Dates

85. OSHA requests comment on the time allowed for compliance with the provisions of the proposed rule. Is the time proposed appropriate, or should there be a longer or shorter phase-in of requirements? In particular, should requirements for engineering controls and/or medical surveillance be phased in over a longer period of time (e.g., over 1, 2, 3, or more years)? Should an extended phase-in period be provided for specific industries (e.g., industries where first-year or annualized cost impacts are highest), specific size-classes of employers (e.g., employers with fewer than 20 employees), combinations of these factors, or all firms covered by the rule? Identify any industries, processes, or operations that have special needs for additional time, the additional time required, and the reasons for the request.

Response:

Employers should not be required to conduct workplace exposure assessments until OSHA can demonstrate that: (1) a sufficient number of qualified industrial hygienists and technicians exists who can collect the huge number of silica samples that the regulated community will generate during the first weeks and months of a final silica standard; and (2) that a sufficient number of qualified laboratories exist that can process the samples on a timely basis and consistently provide employers with reliable results.

Please also see our response to Questions 33, 46, and 86.

[25] 29 CFR 1910.1200 (h).

86. OSHA is proposing a two-year start-up period to allow laboratories time to achieve compliance with the proposed requirements, particularly with regard to requirements for accreditation and round robin testing. OSHA also recognizes that requirements for monitoring in the proposed rule will increase the required capacity for analysis of respirable crystalline silica samples. Do you think that this start-up period is enough time for laboratories to achieve compliance with the proposed requirements and to develop sufficient analytic capacity? If you think that additional time is needed, please tell OSHA how much additional time is required and give your reasons for this request.

Response:

Please also see our response to Question 46.

We strongly recommend that OSHA withdraw the current proposal for at least two years, and until OSHA can demonstrate that there is a sufficient number of qualified laboratories that can process the extremely high number of silica samples that the regulated community will certainly generate during the first weeks and months of a final silica standard (and particularly during the first 180 days). OSHA acknowledges this discrepancy with its proposed two-year catch-up period for commercial labs.[26]

88. OSHA has proposed that employers provide hazard information to employees in accordance with the Agency's Hazard Communication Standard (29 CFR 1910.1200). Compliance with the Hazard Communication Standard would mean that there would be a requirement for a warning label for substances more than 0.1 percent crystalline silica. Should this requirement be changed so that warning labels would only be required of substances more than 1 percent by weight of silica? Provide the rationale for your position. The Agency also has proposed additional training specific to work with respirable crystalline silica. Should OSHA include these additional requirements to the final rule, or are the requirements of the Hazard Communication standard sufficient?

[26] Paragraph (k)(2)(iii). 78 FR 56490 (Sept. 12, 2013).

Response:

Please refer to our response to Question 33.

NSSGA appreciates the opportunity to submit these comments, and may offer additional comments as this rulemaking progresses.

Please send any correspondence on this matter to my attention.

Sincerely,

NATIONAL STONE, SAND AND GRAVEL ASSOCIATION

Michael W. Johnson
President and CEO