



February 11, 2014

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Dr. David Michaels
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U.S. Department of Labor
200 Constitution Ave., N.W.
Washington, D.C. 20210

**Re: Comments/testimony on OSHA's proposed silica standards
(Docket No. OSHA-2010-0034)**

Advisory Council

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Dr. Michaels:

Thank you for the opportunity to comment on this important rulemaking. Workers exposed to respirable silica dust face a host of hazards that present significant risks of death or serious physical injury and warrant new regulatory standards. The existing standards for general industry, maritime work, and the construction industry are not adequately protective, leaving workers to suffer needlessly for as long as those standards remain on the books. We encourage you to act swiftly and use all available means to shepherd this proposal through the remainder of the rulemaking process so that new standards for respirable silica dust are finalized before the end of President Obama's term. Indeed, as your agency knows all too well, it is critical that this rule be finalized well before a new president is sworn in, given the risk that the Congressional Review Act could be used to nullify the thousands of hours of work and millions of dollars that have gone to developing the proposal.

We support all key aspects of the proposal, including the findings that workers are exposed to significant risks under current regulations, the determination that the combined effect of lowering the permissible exposure limit (PEL) and establishing ancillary control measures will substantially reduce those risks, and the findings that lowering the PEL and instituting ancillary provisions would be technologically and economically feasible. Below, we comment on each of these issues in turn. Where applicable, we have annotated our comments with reference to the specific questions posed in the September 12, 2013 notice of proposed rulemaking (NPRM).

Significant Risk

OSHA has clearly proved that workers are exposed to a significant risk of material health impairment, and that the standards proposed are reasonably necessary and appropriate for reducing that risk. However, the agency's significant risk analysis could be improved by expanding the scope of silica-

related diseases covered and better describing the policy considerations that make the risks “significant.”

Under the Supreme Court’s reading of the OSH Act, OSHA must make a two-pronged determination in order to establish the agency’s authority to regulate a particular hazard: first, the agency must find that the hazard poses a significant risk; next, the agency must determine that the proposed standard is reasonably necessary or appropriate to reduce or eliminate the risk.¹

Although OSHA has made these findings in the rulemaking record, supplemental information and analysis will likely show that risks have been underestimated. The American Public Health Association’s comments provide evidence that OSHA’s significant risk determination does not adequately cover the broad range of adverse health effects that workers suffer as a result of exposure to respirable silica dust. We urge you to address their concerns before finalizing the proposed standards.

We also urge you to bolster the significant risk analysis by taking better account of socioeconomic factors that underscore the significance of the risk that workers face. OSHA has adopted a general policy that occupational health risks will be deemed “significant” if they pose a risk of material impairment of health or functional capacity greater than 1-in-1,000. That policy determination is based on the Supreme Court’s “*Benzene*” decision, but it fails to make use of the broad regulatory powers that the Court recognized. The Supreme Court expressly stated that the significant risk requirement it read into the OSH Act was not intended to subject OSHA to a “mathematical straitjacket” and that “while the Agency must support its finding that a certain level of risk exists by substantial evidence, . . . its determination that a particular level of risk is ‘significant’ will be based largely on policy considerations.”² The significant risk analysis in the NPRM focuses almost exclusively on the a quantitative risk analysis, in which the risk of silica-related disease and death is computed using dose-response data and reported as the number of “excess cases” per 1,000 exposed workers at various exposure levels. When crafting the preamble to the final standards for respirable silica dust, OSHA should supplement the quantitative analysis with an improved qualitative description of the policy considerations that make silica-related risks “significant.” We urge OSHA to expand the preamble to include:

- Qualitative descriptions of life with silica-related disease;
- Wage and salary data for affected workers;
- Health and medical benefits available to affected workers; and
- Affected workers’ access to medical surveillance.

Although current levels of silica exposure present risks that are clearly significant based on the quantitative analysis provided in the NPRM and supporting materials, a full account of the policy considerations that make silica-related risks “significant” is critical to the public debate

¹ AFL-CIO v. American Petroleum Inst. (*Benzene*), 448 U.S. 607 (1980).

² *Id.* at n.62.

over the proposed standards. Employer representatives have stated that the costs described in OSHA’s preliminary economic analyses are “a joke.”³ We disagree with that assessment and urge OSHA to carefully consider the evidence that stakeholders including the AFL-CIO and the Building and Construction Trades Department provide, which we anticipate will show that OSHA’s cost estimates tend to overestimate the burdens that employers will bear. Whatever employers’ economic burdens may be, they pale in comparison to the social benefits of a wide-scale reduction in workers’ exposure to silica that would flow from the proposed standards.

Feasibility Analyses, Benefits Assessment, and Regulatory Flexibility (NPRM Questions 19, 20, 24)

Congress mandated that OSHA stringently regulate occupational health hazards, with a goal of assuring a healthy work environment for all. OSHA’s delegated authority is broad, focusing first and foremost on establishing a standard that “most adequately assures ... that no employee will suffer material impairment of health or functional capacity even if such employee has regular exposure to the hazard dealt with by such standard for the period of his [sic] working life.”⁴ The agency must establish that its proposed standards are economically and technologically feasible, but these benchmarks are not significant barriers to establishment of a strong silica standard that goes beyond the existing PEL.

As set forth by the D.C. Circuit Court of Appeals in 1980 and applied by a variety of other federal courts in subsequent years, the standard of technological feasibility requires OSHA to

prove a reasonable possibility that the typical firm will be able to develop and install engineering and work practice controls that can meet the PEL in most of its operations. OSHA can do so by pointing to technology that is either already in use or has been conceived and is reasonably capable of experimental refinement and distribution within the standard’s deadlines. ... Insufficient proof of technological feasibility for a few isolated operations within an industry, or even OSHA’s concession that respirators will be necessary in a few such operations will not undermine this general presumption in favor of feasibility.⁵

The feasibility standard’s presumption in favor of regulation is rooted in the notion that the OSH Act was designed to be “technology forcing.” Thus, Congress urged the agency to establish protective regulations that demand employers make changes to ensure worker health and safety – sometimes costly changes.

³ S. Lee and R. Iofolla, “OSHA Announces Proposed Silica Rule, Lowering PEL, Ending Lengthy OMB Review,” *Bloomberg BNA Occupational Safety & Health Reporter*, Sept. 5, 2013.

⁴ 29 U.S.C. § 655(b)(5).

⁵ *United Steelworkers v. Marshall*, 647 F.2d 1189, 1272 (D.C. Cir. 1980).

The standard of economic feasibility, then, ensures that the relevant industry is capable of complying with the standard.⁶ In other words, OSHA cannot demand such reduced-risk work environments that an entire industry would be bankrupt. OSHA can, however, demand “initially frightening” costs⁷ or costs that threaten the survival of some technologically laggard companies within an industry.⁸ OSHA must assess a proposal’s effects on the competitive stability of an industry, including whether the standard might wreck competitive stability or lead to undue concentration,⁹ but again, the OSH Act demands that the agency put workers’ health before employers’ profits.

OSHA’s preliminary economic and technological feasibility analyses provide strong, detailed assessments to support the conclusions that the proposed silica standards are valid exercises of the agency’s authority under the OSH Act. Other stakeholders including AFL-CIO and the Building and Construction Trades Department will provide detailed comments on the cost and technological data. We echo their concerns but prefer to focus our comments on the relationship between the feasibility analyses, benefits calculations, and regulatory flexibility analyses, in an effort to ensure that in the final rule, OSHA’s analysis does not miss the forest for the trees. To that end, we have a few points.

Discussion of firm-level costs should be balanced with equally detailed analysis of the consequences for individual workers afflicted with silica-related disease. One of the most striking aspects of the NPRM is that OSHA goes to great lengths to measure the economic costs that individual employers will bear, but appears satisfied to adopt comparatively rudimentary assessments of the consequences of silica-related disease and death for individual workers, their families, and communities. For example, OSHA has solicited information from stakeholders on individual firms’ ability to institute work practice and engineering controls using current cash flows (Question 21 in the NPRM).¹⁰ A parallel line of inquiry that addresses workers’ perspectives on the proposal would query how the costs of silica-related death or disease compare to average wages of affected workers and how their current insurance coverage, workers compensation awards, and available disability benefits compare to the costs of treating silicosis and other silica-related diseases. Consider the Table A in the Appendix to these comments, which shows that the average annual wages of workers who are the primary beneficiaries of the proposal are generally at or below median U.S. wages.¹¹

⁶ American Textile Mfrs. Inst. v. Donovan, 452 U.S. 490, 506 (1981).

⁷ United Steelworkers v. Marshall, 647 F.2d 1189, 1265 (D.C. Cir. 1980).

⁸ Industrial Union Dept. v. Hodgson, 499 F.2d 467, 475 (D.C. Cir. 1974).

⁹ United Steelworkers v. Marshall, 647 F.2d 1189, 1265 (D.C. Cir. 1980).

¹⁰ We note that this question is too narrowly focused for OSH Act § 6 rulemaking. Anecdotal evidence about individual firms’ cash flows is only tangentially relevant to the industry-wide analysis that is the lynchpin of the agency’s economic feasibility determinations.

¹¹ Table A covers the industries whose workers make up 90% of the worker population likely to be affected by the proposal, *i.e.*, the “Total Affected Employment” data from Preliminary Economic Analysis Table III-2.

To the extent that wages accurately reflect socioeconomic status, the numbers in Table A suggest that the extraordinary adverse health consequences of elevated silica exposure are visited upon workers with rather ordinary social and economic safety nets. Thus the benefits of creating stringent standards that would protect these workers from the health and economic consequences of silica-related disease deserve more attention than we find in the proposal.

In its current form, the proposal makes a determination, based on inherently flawed studies, that the monetized value of avoiding each silica-related death is \$8.7 million and the monetized value of avoiding each case of silica-related disease falls somewhere in the range of \$62,000 - \$5.1 million. By relying on these numbers exclusively, OSHA systematically undervalues the benefits of the proposed standards. Even the multi-million dollar estimates, for example, are based on willingness-to-pay studies that have recognized flaws:

- The studies are not designed to measure other peoples' willingness to pay to prevent adverse health effects suffered by an exposed worker (e.g., a family member's, friend's, or loved one's willingness to pay).
- The \$8.7 million figure for an avoided fatality is based on analysis of compensating wage differentials, which are not statistically robust.¹²
- The \$5.1 million figure for avoided disease is based on surveys that seek to determine individuals' "risk-risk" trade-off preferences when confronted with a hypothetical choice between two new homes whose only distinguishing characteristics are different risks of death by automobile accident versus adverse health effects from fatal and nonfatal environmental diseases. These choices are completely irrelevant to the decisions that workers face when looking for a job, where the employer can manage risks. Moreover, the survey respondents were generally healthy people who were not familiar with the symptoms or consequences of the diseases in question, raising doubts about the validity of the results.¹³

The systematic under-valuation of the benefits of the proposal continues as the per-case estimated costs are multiplied by the expected number of avoided cases of death and disease to establish a "total benefits" determination for the proposal:

- OSHA only monetizes the benefits of silicosis cases rated 2/1 or higher on the International Labour Organization (ILO) scale, despite the fact that the agency believes the proposed standards will eliminate "the large majority of 1/0, 1/1, and 1/2 silicosis cases."¹⁴ This undercount is particularly important because the less severe silicosis cases are the ones in which workers are most likely to continue working, albeit with reduced

¹² Hintermann, Alberini and Markandya, *Estimating the value of safety with labour market data: are the results trustworthy?* 42 APPLIED ECON. 1085 (2010).

¹³ Magat, Viscusi, and Huber, *A Reference Lottery Metric for Valuing Health*, 42 MGMT. SCI. 1118 (Aug. 1996).

¹⁴ U.S. DEP'T OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, *Preliminary Economic Analysis and Initial Regulatory Flexibility Analysis*, at p.VII-5 (2013) (OSHA-2010-0034-1720).

productivity. Thus the calculated benefits of the rule do not account for the benefits accrued by employers who are able to retain experienced employees at higher levels of productivity. OSHA estimates that between 2,700 and 5,475 new cases of silicosis with an ILO rating of 1/0 or higher occur each year under the existing PELs, and that the new 50 $\mu\text{g}/\text{m}^3$ PEL would eliminate about 1,585 cases of moderate-to-severe silicosis cases (rated 2/1 or higher). OSHA should account for the societal benefits from all silicosis cases eliminated.

- OSHA calculates total benefits assuming the number of affected workers remains static at current employment levels. However, it is reasonable to predict that employment in many of the industries and occupations affected by this proposal will increase over the coming years. In fact, the Inforum study of macroeconomic impacts of the rule, produced for OSHA, indicates that the rule on its own will increase employment levels in many sectors, including the construction industry.¹⁵ Bureau of Labor Statistics (BLS) occupation-based employment projections indicate that many of the occupations affected by this proposal, especially in the construction industry, are poised for significant growth in coming years, suggesting that the benefits of the rule will be higher than OSHA has predicted. Table B in the Appendix to these comments provides selected data from the December 2013 BLS employment projections. The BLS data may not be sufficiently robust to update the projected monetized benefits, but should be adapted to show the rule's non-monetizable benefits. (Note that BLS employment projections may be relevant to OSHA's resolution of issues raised in Question 8 of the NPRM.)

Even if the monetized benefit numbers could be perfected, using them as a polestar fails to account for important values like dignity and equity, the promotion of which are essential to the mission of modern regulatory agencies.¹⁶

The ability to work, engage in family and community life, and otherwise remain a productive member of society is essential to a person's dignity, but severely hampered by silica-related disease. The proposed rule would prevent thousands of cases of silicosis and other debilitating diseases, so the rule's dignity-preserving benefits deserve recognition. People afflicted with silica-related disease would likely attest that the monetary cost of the many treatments for silica-related disease, including physiotherapy treatments designed to expel mucous from the lungs, drugs for secondary infections and inflammation and bronchodilation, oxygen therapy, and lung transplants, pale in comparison to the lost dignity from having to endure such treatment. Yet OSHA has based the estimated benefits of the proposal on the opinions of healthy people who likely have no experience of having lived with silica-related disease. The preamble to the final rule should include discussion of the benefits to workers'

¹⁵ INFORUM, *Preliminary Economic Analysis for OSHA's Proposed Crystalline Silica Rule: Industry and Macroeconomic Impacts*, Table 6 (Nov. 30, 2011) (OSHA-2010-0034-1701).

¹⁶ See Executive Order 12,866, 58 Fed. Reg. 51,735 (Oct. 4, 1993) (stating that "in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including...equity), unless a statute requires another regulatory approach").

dignity that will accrue from the rule, based on accounts of individuals who suffer from the devastating effects of silica-related diseases.

The proposal's implications for fair treatment of workers also deserve more attention. The proposed standards would benefit a population comprising mostly construction workers (more than 85% of the total affected population). This is an industry that is a bastion for middle class workers and those striving to attain middle class status. It is also an industry that employs a significant number of foreign-born and non-union workers,¹⁷ groups who typically have limited power to negotiate improved working conditions. Ensuring that these workers' health is better protected against the hazards of silica exposure is an important step toward reducing socioeconomic inequality, given the linkages between individual health and social mobility.¹⁸ Other federal agencies, including the National Highway Traffic Safety Administration (NHTSA)¹⁹ and Department of Justice (DOJ),²⁰ have gone so far as to argue that equity and other non-monetizable benefits are sufficient to justify rules for which the monetized costs far outweigh the monetized benefits. (As with the OSH Act, the authorizing statutes under which NHTSA and DOJ were acting do not require cost-benefit analysis, much less require the agencies to produce rules with monetized benefits that outweigh monetized costs.)

In summary, the feasibility analyses, benefits assessments, and regulatory flexibility calculations should be enhanced in the preamble to the final rule by better accounting for non-monetizable benefits and qualitative discussion of silica-related health effects from individual workers' perspectives. In addition, the predicted monetized benefits of the proposal should be reported as conservative guesses that reflect the low end of expected total social benefits. They should be bolstered by detailed discussion of non-monetizable benefits that will accrue from the rule. As currently reported, the monetized benefits create a false perception that the top end of the range of benefits is the maximum theoretical social value of the proposal, rather than a speculative assessment that fails to account for important non-monetizable benefits.

¹⁷ The percent of the private industry construction workforce represented by a union has experienced a downward trend since 2000, from 17.5% in 2000 to 14.1% in 2013, according to the Bureau of Labor Statistics. Data extracted from the Bureau's *Union affiliation data from the Current Population Survey – Top Picks*, available at <http://data.bls.gov/cgi-bin/surveymost?lu> (accessed Feb. 5, 2014). Approximately 1.8 million foreign-born workers are employed in construction and extraction industries. U.S. DEPT. OF LABOR, BUREAU OF LABOR STATISTICS, *News Release: Foreign Born Workers: Labor Force Characteristics 2012*, Table 4 (May 22, 2013), available at <http://www.bls.gov/news.release/pdf/forbrn.pdf> (accessed Feb. 5, 2014) (detailed industry and occupational data that would help clarify the size of the silica-exposed foreign-born workforce are not available).

¹⁸ See Hoven and Siegrist, *Work characteristics, socioeconomic position and health: a systematic review of mediation and moderation effects in prospective studies*, 70 OCCUP. ENVIRON. MED 663 (Sept. 2013).

¹⁹ Department of Transportation, National Highway Traffic Safety Administration, Federal Motor Vehicle Safety Standard, Rearview Mirrors, 74 Fed. Reg. 9478 (March 4, 2009).

²⁰ See Dept. of Justice: Disability Rights Section of the Civil Rights Division, Final Regulatory Impact Analysis of the Final Revised Regulations Implementing Titles II and III of the ADA, Including Revised ADA Standards for Accessible Designation (2010), available at http://www.ada.gov/regs2010/RIA_2010regs/DOJ%20ADA%20Final%20RIA.pdf (accessed Feb. 5, 2014).

OSHA's analysis of the economic effects of the proposal on small businesses has been enhanced by recognition of the fact that Small Business Administration (SBA) size standards are inadequate. In the Small Business Act, Congress granted SBA the power to adopt size standards that define which business concerns qualify for preferential treatment under the Regulatory Flexibility Act, Small Business Regulatory Enforcement Fairness Act, and other laws. Using the SBA's definitions of "small business," the NPRM presents data that tally the likely economic effects of the proposal. Those data show that:

- Two-thirds of the costs of complying with the proposed standards would be borne by small businesses;
- Small businesses would be responsible for more than half of the total compliance costs in 79 of the 129 industries studied (61 percent); and
- Small businesses would be responsible for more than 90 percent of the total compliance costs in 21 of the 129 industries studied (16 percent).

But these calculations are based on size standards developed by the SBA that, in many cases, allow for firms with up to 1,000 employees to be considered "small businesses." OSHA appropriately supplemented its analysis of economic effects on SBA-defined small businesses with an analysis of the economic effects on firms that meet a more reasonable size standard – 20 or fewer employees. Using that standard:

- Only 11 percent of the costs of complying with the general industry and maritime standards would be borne by small businesses;
- One-third of the costs of complying with the construction standard would be borne by small businesses;
- Small businesses would be responsible for at least half of compliance costs in just three of the 129 industries (2 percent); and
- No industry would see small businesses responsible for more than 90 percent of the costs of compliance.

OSHA has provided the public a great service by including the alternative 20-employee size standard in its small business analysis. SBA has attempted to rig the rulemaking process to create an appearance that federal programs have a more painful economic effect on small businesses than the programs really do, so it is helpful that OSHA has provided additional data to change the terms of debate. Nonetheless, it is important to recognize that the harms that OSHA's regulations address do not make distinctions based on the size of a business. A worker isn't any less harmed because he contracts silicosis while working for a company with less than 20 workers or 500 workers or 1,000 workers.

The New PEL and Ancillary Provisions to Reduce Risks

Given the significant risks that workers face because of exposure to respirable silica dust, OSHA has appropriately chosen to update its existing regulations with comprehensive health standards.

More enforcement of the current standards is not enough

(NPRM Question 26)

Some stakeholders have suggested that expanded enforcement of existing standards would be sufficient to address the risks that workers face.²¹ This argument is based on the fallacy that compliance with the existing standards is sufficient to substantially reduce the significant risks posed by silica dust exposure. Having determined that significant risks exist, OSHA has a duty to enact health standards that are reasonably necessary or appropriate to substantially reduce those risks. Even if stronger enforcement resulted in 100 percent compliance with existing silica standards, the significant risks would not be substantially reduced. Assuming 100 percent compliance, OSHA has presented data indicating that thousands of workers will die or be stricken with silica-related disease every year.²² The agency's enforcement data indicate that only 25-30 percent of samples taken during enforcement proceedings uncovered non-compliant exposures.²³ What these high levels of compliance with the current PELs and significant risks tell us is that the current PELs are not sufficient to protect workers. Enforcing them is not an appropriate way to substantially reduce the significant risks of silica-related disease or death.

A closer look at OSHA's data is instructive. Consider these numbers, which break down the result of silica samples obtained during inspections over more than a decade.

	<i>Construction</i>		<i>"Other than construction"</i>	
	<i>1997-2002 (738 samples)</i>	<i>2003-2009 (732 samples)</i>	<i>1997-2002 (3363 samples)</i>	<i>2003-2009 (1355 samples)</i>
In compliance	58%	75%	66%	70%
1x PEL to <2x PEL	12%	7%	14%	8%
2x PEL to <3x PEL	6%	4%	6%	3%
≥3x PEL	24%	14%	13%	19%

²¹ S. Lee and R. Iofolla, "OSHA Announces Proposed Silica Rule, Lowering PEL, Ending Lengthy OMB Review," *Bloomberg BNA Occupational Safety & Health Reporter*, Sept. 5, 2013.

²² See NPRM, Tables VI-2, VIII-3, and VIII-4.

²³ NPRM, Tables III-1 and III-2.

Data from the construction industry seem to indicate that OSHA’s emphasis programs have led to additional compliance with the PEL and a general trend toward lower exposures. Data from the “other than construction” category, however, exhibit a striking pattern: compliance rates seem to have increased, but non-complaint exposures have become more extreme.

OSHA notes in the NPRM that, as part of a National Emphasis Program on silica, at least two percent of each region’s annual inspections are silica-related. In calendar year 2012, of the more than 22,000 health inspections in all industries reported to the database:

- More than 3,000 health inspections occurred in the 12 industry categories with the greatest number of workers potentially affected by the new silica standards, accounting for 90% of affected workers; and
- More than 4,000 health inspections occurred in the 21 industry categories with the greatest number of workers potentially affected by the new silica standards, accounting for 95% of affected workers.²⁴

These data suggest that a significant number of OSHA health inspections occur at worksites where silica exposure may be a primary occupational health concern. If OSHA were to do “more enforcement” of existing silica standards, the agency would have to choose other industries that would get less attention, thereby raising questions about OSHA’s ability to enforce other health standards and workers in other industries. OSHA’s budget and staffing resources are also limiting factors.

Exposure assessment provisions must be strengthened

Robust exposure assessment is critical to the success of the proposed standards. As OSHA has described in the NPRM, exposure assessment provides the information that employers, workers, medical professionals, and government agencies need in order to properly implement controls, assess workers’ health, and ensure compliance. The standards’ exposure assessment provisions must be triggered by an employer’s knowledge or expectation that a worker will be exposed to respirable silica at a level greater than one-half of the PEL. This trigger is consistent with other OSHA health standards. It provides workers and employers with some assurance that variations in exposure levels will be accurately tracked and exposures above the PEL will be identified and corrective actions will be taken to protect workers.

Construction industry employers must be required to assess exposures, even when they comply with the provisions of Table 1. (NPRM Question 54) Paragraph (d)(8) in the proposed construction standard relieves construction industry employers of an obligation to conduct exposure assessments if the employer has fully implemented the controls

²⁴ The enforcement database does not contain records for health inspections conducted in the industry category 999000 (construction-related work by state and local employees in certain state-plan states). OSHA estimates that 170,068 workers in that category will be affected by the proposal (8% of total workers affected by the proposal).

set forth in Table 1 of paragraph (f). OSHA has not provided adequate justification for this exemption. The same principles that weigh in favor of a requirement to monitor silica exposure in other industries holds for the construction industry – monitoring gives workers, employers, OSHA, and researchers valuable information that can be used to reduce workplace hazards. Many construction operations listed in Table 1 are presumed to create respirable silica dust in concentrations that exceed the PEL, even when employers implement feasible engineering and work practice controls. Following the standard hierarchy of controls, then, OSHA allows employers to provide workers with respirators as a means of compliance with the standard.

The many shortcomings of real-world respiratory protection programs underscore the importance of requiring exposure assessment in operations covered by Table 1. Employers do not always meet their obligations to ensure proper respirator selection and fit for individual workers, to periodically refit respirators, to ensure workers wear respirators properly every time, and to ensure proper maintenance. Workers report that respirators make breathing difficult during heavy physical labor and in hot environments. Respirators can also inhibit communication between workers. Finally, worker’s knowledge of potential harm from failure to use a respirator can have a significant effect on respirator use. If the construction standard required exposure assessment (and consequent notification of results) for construction operations covered by Table 1, the additional knowledge about silica-related risk would result in more widespread respirator use and fewer sickened workers. It would also provide critical information needed for future epidemiological studies of silica risks in workplaces that comply with the new standard. OSHA’s experience regulating air contaminants, including asbestos and silica, suggests that the agency’s first attempt to promulgate a PEL for a respiratory hazard will not necessarily be its last. Requiring construction operations covered by Table 1 to conduct exposure monitoring will ensure that OSHA, NIOSH, and other researchers can continue to monitor employee health in workplaces that are in compliance with the new standard, thereby creating an opportunity for further strengthening the silica standard if workers continue to contract silica-related diseases in workplaces that comply with the requirements of Table 1.

Employee notification requirements must be strengthened. (NPRM Question 41) While employers are ultimately responsible for protecting workers from the risks of silica exposure, workers can play a critical role in initiating, developing, and carrying out corrective actions if they have adequate knowledge of existing conditions. For those reasons and more, paragraph (d)(6) implements the OSH Act § 8(c)(3) mandate that employers provide their workers access to exposure assessment results. The proposed mechanisms for providing notification appear to be consistent with existing standards, but it is not clear that they are sufficient. For instance, giving employers the option to post results in “an appropriate location accessible to all affected employees” does nothing to ensure that workers have an opportunity to read and digest the information. The information in the required notification is only functionally useful to worker – it only meets Congress’s goal of “stimulat[ing] employers and employees ...

to perfect existing programs for providing safe and healthful working conditions”²⁵ – if it is provided in a way that gives workers the time and freedom to study the information.

To that end, we recommend several changes to proposed paragraph (d). All workers should be provided with personal notification, in writing. The document should be provided to the worker in a language that the worker can understand. Given the large number of foreign-born workers in the industries covered by the proposed standards, English-language documentation is likely insufficient. The types of information provided in the document should also be expanded. Under proposed paragraph (d)(6)(ii), employers must describe corrective action being taken when the exposure assessment indicates that worker exposures exceed the PEL. That requirement is the minimum required by law,²⁶ but it should be bolstered by an explanation of the regulatory and public health context of the data. For instance, a basic description of the silica standard should be included, along with information about silica-related disease from an individual and community perspective, as well as information about available healthcare benefits. Finally, employers’ duty to provide additional information beyond simply the results of exposure assessment should not be triggered by exposures measured above the PEL, as in proposed paragraph (d)(6)(ii), but rather by any exposure above the action level.

These additional disclosures are justified by the significant risks that workers face at exposures below the PEL. OSHA data indicate that at the proposed AL of 25 $\mu\text{g}/\text{m}^3$:

- Lifetime risk of lung cancer mortality is 3-23 deaths per 1,000 workers;
- Lifetime risk of silicosis and non-malignant lung disease mortality is 4-22 deaths per 1,000 workers;
- Lifetime risk of renal disease mortality is 25 deaths per 1,000 workers; and
- Cumulative risk of silicosis morbidity is 5-40 cases per 1,000 workers.

The additional disclosures would ensure that workers have sufficient knowledge of silica’s hazards and the consequences of exposure to empower their efforts to perfect the programs designed to protect them. The additional disclosures would also complement the training requirements that apply to all workers who may be exposed to respirable silica dust under normal conditions or in foreseeable emergencies (proposed paragraph (i)).

OSHA must clarify how “objective data” will be treated. (NPRM Question 43) Building on experience with other comprehensive health standards, OSHA has proposed allowing employers to substitute “objective data” for data obtained through individual or representative air sampling. The preamble to the NPRM indicates that employers must be able to prove that the objective data provide the same degree of assurance that exposures are correctly characterized as air monitoring would. That could be a strong standard, if the data are verifiable. To give workers an assurance that their risks are properly understood, the final standard should

²⁵ 29 U.S.C. § 651(b)(1).

²⁶ 29 U.S.C. § 657(c)(3).

require an independent audit of employers' objective data calculations, to ensure they meet the standard of providing the same degree of assurance of proper exposure characterization as air monitoring data.

The proposed regulatory text on exposure assessment should also be improved by changing the requirement that data represent “expected” conditions. Instead of “expected” conditions, employers should be responsible for developing sampling or objective data that represent “foreseeable” conditions. There are many reasons “expected” exposures might be lower than “foreseeable” exposures, including equipment malfunction and suboptimal respiratory protection programs,²⁷ so changing the regulatory text to require data that represent “foreseeable” conditions would provide better protection for workers.

The exposure assessment provisions should clarify the duties of employers who hire workers on a temporary or contingent basis. Finally, the growth of the temporary labor industry raises concerns about the duty to conduct exposure assessments. Host employers will presumably be held responsible for conducting exposure assessments for workers hired through staffing agencies, since the host employers would be considered “creating” or “controlling” employers under OSHA’s multi-employer citation policy. But the staffing agency should have some duty to obtain exposure assessment data for employees who are exposed to respirable silica dust. These contingent labor employers need the data in order to ensure that they can accurately determine whether medical surveillance requirements apply.

Exposure above the Action Level should trigger the employer’s duty to provide medical surveillance

(NPRM Questions 41 and 77)

Under the proposed general industry and maritime standards, worker exposure to respirable silica dust above an Action Level (AL) triggers an employer duty to conduct exposure assessments, but nothing else. The AL should also trigger employers’ duties to make medical surveillance available to workers. This requirement should apply across general industry, maritime, and construction work. The use of the AL as a trigger for medical surveillance is consistent with existing OSHA health standards and would be more protective of workers. In fact, the draft NPRM submitted to the White House for Executive Order 12,866 review indicates that OSHA intended to use the AL-based trigger in the proposed rule. Following White House review, however, the AL-based approach was relegated to a regulatory alternative and the proposed rule now uses an approach similar to one that was originally deemed unacceptable by OSHA. The follow passage was included in the draft NPRM submitted to the White House:

As a regulatory alternative, OSHA considered an action level equal to the proposed PEL, that is, an action level of 50 $\mu\text{g}/\text{m}^3$, but concluded that the savings in costs associated

²⁷ Rosenthal and Paull, *The Quality of Respirator Programs: An Analysis from OSHA Compliance Data*, 46 AIHA J. 709 (1985).

with the reduction in exposure assessment and medical surveillance cases could not justify the potential loss in benefits resulting from an action level higher than one-half the PEL, given OSHA’s mandate to “set the standard which most adequately assures, to the extent feasible . . . that no employee will suffer material impairment of health or functional capacity . . .” 29 U.S.C. Sec. 655(b)(5). OSHA estimates that annualized costs will total \$864.5 million for a regulatory alternative action level of 50 $\mu\text{g}/\text{m}^3$, compared to annualized costs of \$1.3 billion for OSHA’s proposed action level equal to 25 $\mu\text{g}/\text{m}^3$. The difference in annualized cost is equal to approximately \$450 million.

The standard that OSHA had originally proposed differs in two respects from the standard found in the final NPRM, which was published after protracted White House review.²⁸ First, the original proposal used the 25 $\mu\text{g}/\text{m}^3$ AL as a trigger for both exposure assessment and medical surveillance, whereas the final proposal uses the AL as a trigger for exposure assessment and the PEL as a trigger for medical surveillance. Second, the original proposal required annual exams for all workers covered by the medical surveillance requirement, whereas the final proposal requires only triennial exams.

Comparing the draft and final NPRM preambles does not reveal any explicit reason for why OSHA backtracked on these two elements of the proposal. However, the presentation of regulatory alternatives 3 through 6 in the final NPRM leaves one with the impression that the proposed trigger for and frequency of medical exams were chosen based on cost estimates alone. In the absence of an explanation for why the added expense of approximately \$450 million would render the 25 $\mu\text{g}/\text{m}^3$ trigger economically infeasible for all of the affected industries, this would be an impermissible exercise of OSHA’s delegated authority according to the Supreme Court’s *Cotton Dust* decision. The draft NPRM indicated that alternative approaches to the medical surveillance and exposure assessment triggers differ in terms of OSHA’s statutory mandate to “set the standard which most adequately assures, to the extent feasible . . . that no employee will suffer material impairment of health or functional capacity . . .” In contrast, the final NPRM only compares the relevant regulatory alternatives in terms of annual costs in broad industry categories. The preamble to the final NPRM even states that OSHA is unable to quantify the benefits that the alternatives would provide to workers who are exposed to silica at concentrations between 25 and 50 $\mu\text{g}/\text{m}^3$. Given the significant risks of silica-related disease at exposures near the AL (noted above), it is critical that workers have access to free medical surveillance if they are exposed to respirable silica above the proposed AL for longer than a

²⁸ Robert Verchick, *Dangerous dust and deadly delay: OSHA's proposed silica rule*, CPRBLOG (Nov. 26, 2013), at <http://www.progressivereform.org/CPRBlog.cfm?idBlog=94E03BEA-EFB1-697A-22B8C050D9AD32AF> (accessed Feb. 5, 2014); Thomas McGarity, *OSHA Announces Proposed Silica Rule – Let’s Keep it Rolling*, CPRBLOG (Aug. 23, 2013), at <http://www.progressivereform.org/CPRBlog.cfm?idBlog=ACACEDF4-9BFB-F8D4-4F9296CD4A2448BB> (accessed Feb. 5, 2014); Thomas McGarity, *Two Years Later, OSHA's Rule to Protect Workers from Deadly Silica Still in White House Review*, CPRBLOG (Feb. 14, 2013), at <http://www.progressivereform.org/CPRBlog.cfm?idBlog=D913A772-BAB5-697D-6638AEC1CF3053DB> (accessed Feb. 5, 2014).

negligible period of time. Frequent exams – on at least an annual basis²⁹ – are also critical. Lowering the trigger for and increasing the frequency of medical surveillance will increase the likelihood that workers and their medical providers identify the onset of silica-related disease early in its development, begin treatment in a timely fashion, and – hopefully – avert the worst consequences.

Conclusion

Thank you again for the opportunity to comment on this proposal. Millions of workers are waiting on OSHA to finalize a new set of standards and we implore you to heed their call and publish a final rule post haste.

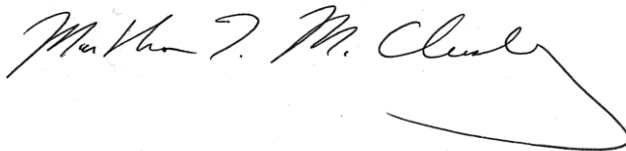
Sincerely,



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²⁹ Medical exams should be available to workers on a more frequent basis for three reasons: (1) when the worker shows signs or symptoms of silica-related disease; (2) when the worker raises concerns about elevated silica exposures, and (3) when a physician or other licensed healthcare professional recommends more frequent exams.

Appendix, Table A: Annual mean wages for selected industries and occupations

<i>NAICS</i>	<i>OSHA "Total Affected Employment" (all occupations)</i>	<i>Selected occupational category^a</i>	<i>BLS employment estimate for given occupational category^b</i>	<i>BLS annual mean wage for given occupational category^b</i>
238100 Foundation, Structure, and Building Exterior Contractors	559,729	Construction and extraction	522,250	\$41,260
238900 Other Specialty Trade Contractors	274,493	Construction and extraction	340,080	\$40,580
237100 Utility System Construction	217,070	Construction and extraction	235,920	\$44,050
237300 Highway, Street, and Bridge Construction	204,899	Construction and extraction	202,450	\$46,840
236200 Nonresidential Building Construction	173,939	Construction and extraction	393,310	\$48,150
999000 State and Local Governments	170,068	Construction and extraction	443,260	\$44,230
238300 Building Finishing Contractors	120,012	Construction and extraction	465,670	\$41,340
236100 Residential Building Construction	55,338	Construction and extraction	363,310	\$40,920
237900 Other Heavy and Civil Engineering Construction	46,813	Construction and extraction	59,570	\$44,660
327320 Ready-mixed Concrete Manufacturing ^c	43,920	Production operations	39,130 (NAICS 327300)	\$35,260 (NAICS 327300)
339116 Dental Laboratories ^c	33,214	Production operations	166,220 (NAICS 339100)	\$35,470 (NAICS 339100)
327390 Other Concrete Product Manufacturing ^c	31,865	Production operations	39,130 (NAICS 327300)	\$35,260 (NAICS 327300)

Notes:

Appendix, Table A: Annual mean wages for selected industries and occupations

- a. Occupational categories chosen as the most likely affected by the silica proposal. “Construction and extraction” refers to SOC Major Group 47-0000. “Production operations” refers to SOC Major Group 51-0000.
- b. Data from BLS May 2012 National Industry-Specific Occupational Employment and Wage Estimates, *available at* <http://www.bls.gov/oes/current/oessrci.htm>.
- c. Data at the 5-digit NAICS level are not available on the BLS website, so data at the 4-digit level are provided.

Appendix, Table B: BLS Employment Projections, December 2013

<i>Title</i>	<i>SOC Code</i>	<i>Employment (in 1,000s)</i>		<i>Employment change, 2012-2022</i>		<i>Job openings due to growth and replacement needs, 2012- 2022 (in thousands)</i>
		<i>2012</i>	<i>2022</i>	<i>Number (in 1,000s)</i>	<i>Percent</i>	
Construction laborers	47-2061	1,071.10	1,331.00	259.8	24.3	489.1
Cement masons and concrete finishers	47-2051	140.8	181.8	41.0	29.1	57.2
Brickmasons and blockmasons	47-2021	71.0	96.2	25.2	35.5	32.8
Drywall and ceiling tile installers	47-2081	94.8	109.9	15.1	15.9	24.1
Roustabouts, oil and gas	47-5071	61.1	72.8	11.7	19.2	27.9
Helpers--brickmasons, blockmasons, stonemasons, and tile and marble setters	47-3011	24.4	34.9	10.5	43	14.3
Highway maintenance workers	47-4051	147.6	155.9	8.4	5.7	30.3
Tile and marble setters	47-2044	39.2	45.1	5.9	15	12.9
Helpers, construction trades, all other	47-3019	21.4	26.6	5.2	24.3	8.6
Rotary drill operators, oil and gas	47-5012	26	30.9	4.8	18.6	15.4
Helpers--extraction workers	47-5081	26.4	30.8	4.4	16.6	11.4
Derrick operators, oil and gas	47-5011	22.8	27.1	4.3	18.8	13.5
Stonemasons	47-2022	14.1	18.2	4.1	29.2	5.6
Earth drillers,	47-5021	19.7	23.4	3.8	19.2	9

Appendix, Table B: BLS Employment Projections, December 2013

except oil and gas						
Plasterers and stucco masons	47-2161	22.8	26.2	3.4	15	4.5
Tapers	47-2082	19.2	22.1	2.9	14.8	4.7
Extraction workers, all other	47-5099	9.6	10.9	1.3	13.5	2.7
Helpers--painters, paperhangers, plasterers, and stucco masons	47-3014	11.1	12.2	1.1	10.2	2.9
Rail-track laying and maintenance equipment operators	47-4061	17.3	18.2	0.9	5.2	4.5
Rock splitters, quarry	47-5051	4.6	5.4	0.8	17.4	1.4
Segmental pavers	47-4091	1.8	2.4	0.7	38.1	1
Terrazzo workers and finishers	47-2053	3.5	4.2	0.7	19.8	1.1
Explosives workers, ordnance handling experts, and blasters	47-5031	6.5	6.9	0.3	5.2	2.1

Source: <http://data.bls.gov/projections/occupationProj>