

OSHA Silica Rule Comments  
OSHA Docket Office  
Docket No. OSHA-2010-0034  
U.S. Department of Labor  
Room N- 2625  
200 Constitution Ave., NW  
Washington, DC 20210

Re. Docket No. OSHA-2010-0034- Occupational Exposure to Respirable Crystalline Silica

On behalf of the National Utility Contractors Association (NUCA), which represents approximately 1,800 utility and excavation construction companies, we would like to take the opportunity to comment on the Occupational Exposure to Respirable Crystalline Silica Proposed Rule (Docket No. OSHA- 2010-0034).

After careful consideration of the Notice of Proposed Rulemaking (NPRM) and supporting documents, NUCA has identified three significant concerns to utility and excavation contractors within the NPRM. They are: the undocumented need for the proposed rule, feasibility of the proposed rule, and the costs associated with compliance with the proposed rule. Each will be addressed individually.

#### Undocumented Need

NUCA questions the need for lowering the PEL and other accompanying requirements in the NPRM. The silicosis-caused death rate between 1968 and 2002 dropped 93 percent, according to the Center for Disease Control (CDC), which also reports that the number of reported cases of silica-related deaths continues to decline steadily each year. This documented evidence proves that current contractor practices, including using wet methods, local exhaust ventilation, and/or respirators, have limited worker exposure to silica dust at jobsites. For many years, utility contractors and excavators have been taking actions to control dust at their jobsites that, which have reduced exposure and prevented silica related illness.

OSHA has insufficient documentation to accurately determine the percentage of silica-related deaths currently occurring within the construction industry and to which construction tasks they apply. In fact, there is no scientific documentation that measures improved benefits, compared to current standards, to employees who would work under the NPRM. OSHA has produced little scientific evidence that document reducing the PEL level and implementing new requirements under the proposed standard will significantly limit or reduce death rates contributable to silica dust exposure in the construction industry any better than current standards. It only promises to place an unachievable compliance burden and severe financial burden on employers.

OSHA's contention that the practices listed in Table 1 will have a more significant measurable impact on the death rate than current contractor efforts, which the CDC has already acknowledged is unlikely, and has not been sufficiently documented. OSHA assumes Table 1

will be used in lieu of exposure monitoring or when representative silica samples are unavailable. Otherwise every workplace will have to be monitored for silica levels, even when the employee may be in a particular location for one day or just a few hours. OSHA has not sufficiently taken into account the mobility and changing conditions of the construction worksite in its attempt to mitigate the exposure. How will exposure monitoring of multiple worksites trigger health screenings as it is prescribed in the NPRM? Monitoring and enforcing PEL will be require an enormous effort for employers and OSHA when multiple worksites are involved over a particular period.

These issues are just a few critical issues that need further study before a final rule can be released.

#### Lack of Feasibility

OSHA's NPRM contains requirements, including Table 1, which prescribes specific actions necessary for compliance for a limited number of potential construction activities. However, contrary to what OSHA implies, Table 1 does not guarantee compliance. Moreover, the NPRM is vague about exactly what steps contractors must take to address silica exposure on the jobsite. OSHA has chosen not to link the actions in Table 1 directly to compliance with the regulation. This confusing and conflicting language will make it difficult for contractors to be certain they are in compliance. This silica standard creates an overly complex and confusing system of compliance measures and has overlooked a large number of other potential silica exposures in formulating Table 1, which essentially makes these compliance guidelines worthless to a contractor trying to comply with a complicated standard. Below we will cover three requirements from Table 1 and explain why they are not feasible for the underground utility construction industry.

#### Silica Exposure Assessments

The proposed standard assumes that representative samples are available or that worksites can and will be assessed to measure the level of silica dust on the site. It is well-known that jobsite conditions change daily and hourly, making silica exposure assessment not only impractical, but nearly impossible because representative silica samples would need to be collected around the country under varying conditions.

The nature of excavation underground construction is continuously mobile. Exposure assessments take time to evaluate by a lab, and in that time, the jobsite conditions will change or crews will move to other sites. Test results simply could not be available in enough time to be relevant to a particular jobsite. This not only makes costly lab assessments irrelevant to particular sites, it also does nothing to protect the workers on those sites.

Few, if any, NUCA members employ industrial hygienists or technicians capable of performing valid silica exposure assessments. Therefore, the proposed rule would necessitate the need to employ one or more industrial hygienists or technicians, in addition to purchasing the necessary equipment to perform daily or at least regular jobsite assessments. There are not nearly enough qualified industrial hygienists, technicians or safety professionals qualified to handle that workload. NIOSH predicts a shortage of safety and health professionals in the future. Where are construction employers going to find qualified individuals to perform exposure assessments? A contractor may choose to hire safety and health consulting firms that are capable and qualified to perform the assessments, but like accredited labs, these firms are not abundantly available throughout the U.S. Those that are qualified charge exorbitant fees to perform the service. Because utility and excavation contractors are highly mobile, we believe assessments would be

necessary at almost every jobsite in order to stay in compliance with the proposed rule. This would be an excessive expense to comply with a requirement that has little or no benefit to employee safety. How does OSHA propose earth moving contractors estimate or measure exposure levels of employees not included in Table 1 without performing exposure assessments?

#### Table 1 – Use of Heavy Equipment During Earthmoving Operations

The compliance requirement that is perhaps most troublesome for utility and excavation contractors are those related to the use of heavy earthmoving equipment, which has not been clearly defined. Table 1 suggests that employers use sealed enclosed cabs with HEPA filters and positive pressure to comply. The majority of earth moving equipment in use today is equipped with open canopies or unpressurized cabs. Contractors would need to retrofit large numbers of earth moving equipment to be in compliance, which is neither realistic or feasible. In addition, any equipment a contractor has owned for more than five years old, would likely have to be replaced because older excavators cannot always be retrofitted with sealed pressurized cabs.

We could find no indication that OSHA has made a concerted effort to study earthmoving equipment commonly used in the utility construction and excavation industries. There is little evidence that OSHA studied and assessed exposure levels associated with the use of excavators, back hoes, front end loaders, bull dozers, scrapers and similar equipment. And any information OSHA has made available is largely incomplete. Operations using heavy earthmoving equipment vary drastically throughout the country, from jobsite to jobsite, location to location. Many of these operations produce little to no silica dust, which would force contractors to perform unnecessary exposure assessments to comply with Table 1.

Weather conditions and climate also affect the potential exposure levels. Earthmoving operations in dry climates are considerably different than those in a damp climate. It is also impossible to keep earth moving equipment cabs clean and free of loose dirt and dust on an excavation site. Therefore, it is unreasonable to assume that a sealed cab will automatically lower the silica level below  $50 \mu\text{g}/\text{m}^3$  for all the operators involved in heavy equipment earth moving operations. It is frequently and often necessary for heavy equipment operators to open doors and/or windows to communicate with other workers on the jobsite. If the operators are required to keep the cab sealed to prevent the influx of dust, the operator will not hear verbal commands and be able to properly communicate with supervisors and laborers working around the equipment, putting other workers' safety in jeopardy.

NUCA respectfully disagrees that OSHA's data indicates that heavy equipment operations can meet the proposed PEL by relying on the requirements set forth in Table 1, and that OSHA has effectively considered the various different types of soil and earth moving equipment in its development of these requirements. OSHA's guide to preventing exposure is not based on sound scientific evidence or studies related to the heavy earth moving equipment operations in different climates and soil conditions.

Other reasons Table 1 will not work in its current form.

The proposed standard assumes that all dust in the air at a construction site is silica based. The use of Table 1 would require construction employers to perform extensive exposure monitoring before determining the appropriate method of compliance.

OSHA has not sufficiently studied construction operations. OSHA has simply assumed, based on limited and inconclusive studies, that the compliance methods in Table 1 will work and protect employees from silica exposure.

For example, the wet down methods suggested in Table 1 also contain feasibility issues. Using copious amounts of water may be impossible due to the lack of water supply, runoff into sewers and waterways (which is prohibited by environmental regulations), and freezing water and slippery slurry, which would expose workers to slips and falls. The compliance methods proposed in Table 1 have not been proven to be necessary or effective and could create additional silica exposure or other safety hazards.

OSHA's technological feasibility analysis in Table 1 is probably the best evidence of why the construction industry cannot meet the requirements of the proposed standard.

For example, when using a jackhammer, wet down methods or LEV for up to 4 hours per day are considered appropriate compliance measures. But, as soon as the jackhammer operator exceeds 4 hours, the employer is no longer in compliance and must provide respirators. OSHA has not documented any scientific evidence that exceeding 4 hours places the worker in jeopardy and therefore needs a respirator. The 4-hour-per-day cutoff point appears arbitrary. In addition, how does a contractor track workers exposure time without continuous exposure samples? Given the compliance flaws associated with wet methods, LEV and respirator requirements, NUCA believes that the contractor's safety management team is best equipped to determine the appropriate control method for specific jobsite conditions.

## COST

OSHA must consider the excessive cost contractors will face to comply with the proposed rule. Under this proposal, employers can only determine which compliance mechanisms are appropriate after they have representative samples of potential silica exposures. Otherwise they must complete exposure assessments at the job site. The cost of completing exposure assessments ranges from approximately \$1,000 to \$2,500 in consulting fees, plus a minimum \$500 in lab fees to evaluate 5 samples. This would be required for each jobsite. For small construction companies like NUCA members that are constantly mobile, this could cost anywhere from \$3,000 to \$12,000 to evaluate a jobsite. This cost would effectively drive up the cost of doing business, could create financial hardships, or end a small business' ability to operate. For larger employers who can afford to remain in business, their prices will reflect this added cost. When most utility and excavation work is underwritten or funded by state or federal tax dollars, the result will be higher costs to the taxpayer, with little, if any, documented benefit to the employees' safety.

The contractor could face additional costs, after the initial exposure assessment. If the sample is above the PEL, requirements for medical evaluations and health evaluation for employees are triggered if workers were exposed for more than 30 days.

Employers' cost will mount up rapidly as they will be required to not only pay the cost of the health screening, but also the employee's hourly wage and travel expenses to and from the medical facility. Based on information obtained from a number of industrial health facilities, the cost of a medical evaluation that meets the NPRM requirements ranges from \$300 to \$500 per employee plus hourly wages and travel costs. In many regions of the country, these facilities are not locally available, and a worker may have to travel a long distance to obtain medical evaluation. OSHA has made the assumption that the PLHCP would come to the contractor's location to perform employee medical evaluations. This is completely unrealistic when you consider the construction industry's employee turnover rate and mobility.

Training the employees to adhere to proposed standards must also be factored into the costs of this NPRM. Training professionals generally charge \$20/contact hour, and it is likely to take 3-4 hours to train each employee. Employees will be paid for this additional training, so wages must also be added to the cost of compliance.

Requirements for large earthmoving equipment could require significant cost. Most of the equipment currently used by utility and excavation contractors do not have closed cabs or are not otherwise adequately equipped as to meet the requirements set forth in Table 1. In order to comply, the equipment currently used would need to be retrofitted or replaced at a cost of tens of thousands, even hundreds of thousands of dollars, for each piece of equipment. This is an unreasonable cost burden to place on any business. See “Attachment 2” -- information about the “Cost of compliance in regards to heavy equipment.”

OSHA’s cost estimates are considerably underestimated. The actual cost of worksite exposure assessment and monitoring has not been fully considered. OSHA has underestimated the cost of medical evaluations and training. Additionally, the cost of retrofitting or replacing earth moving equipment is not insignificant. These costs will be incurred by almost all of the utility and excavation industry to meet the requirements proposed by OSHA in the NPRM.

Additionally, OSHA recognizes the construction industry has a 64% turnover rate, effectively acknowledging the cost of medical evaluations training, respirator training, and PPE would be never ending.

## CONCLUSION

OSHA has not adequately developed this NPRM; substantial questions remain about the scientific evidence proving the need for lowering the PEL for silica exposure. OSHA has not connected the prescribed changes to the desired impact, nor has it adequately articulated what the desired impact is. OSHA has not shown that the proposed PEL and requirements can be met by the construction industry in most operations most of the time. OSHA has not identified all of the job categories and work activities that could be affected by the proposed rule and has not fully considered the feasibility of this rule across industries. The NPRM falls far short of offering compliance methods construction contractors could use to increase protection for the majority of employees potentially exposed to silica.

OSHA has also underestimated the cost and impacts of requiring jobsite exposure assessments, engineering controls, retrofitting or replacing equipment, training, health screening, and changes to construction methods--all of which would have a significant effect on construction industry employers, the consumer, and state and federal balance sheets.

This NPRM has not met its burden of demonstrating that the proposal is reasonable or technologically and economically feasible. Limiting exposure to silica can be achieved through current standards, employee training, and the judgment of construction safety professionals. Compliance should focus on adhering to rules based on solid scientific evidence and proven compliance actions. OSHA can help by continuing to provide guidance and information on its website ([www.osha.gov](http://www.osha.gov)).

Therefore, NUCA requests that OSHA withdraw this NPRM as it applies to the construction industry until OSHA and the construction industry can determine the potential silica exposure that accurately portrays the need, feasibility, and costs of compliance.

It is important to point out that the information contained in this document may be somewhat limited because OSHA would not extend the comment period for additional 90 to 180 days so our organization could take more time to communicate with our members to collect more definitive information and examples.

Please address each of the aforementioned questions and direct your responses to George Kennedy, Vice President of Safety and Will Brown, Government Relations Manager.

Sincerely,  
George Kennedy , CSP  
NUCA Vice President of Safety

Attachment 1 -- Comments from NUCA Members

George,

I received your email yesterday evening regarding the Proposed Silica Standard and I have a few questions on how to get our members to provide more feedback (ie how to make it easier for them to represent their costs if this initiative did move forward).

For our company the one operation that would have a tremendous impact (as I am sure many) would be the Use of Heavy Equipment During Earthmoving. Specifically operating the enclosed cab and ensure it has air conditioning and positive pressure. Some of our arguments are as follows:

- 1) We have an older fleet and are in the process of upgrading however some of our excavators and loaders do not have enclosed cabs. For us to retrofit each machine would be an astronomical cost.
  - a. There would be downtime on these machines. Impacting our progress on certain projects and financially impacting the bottom of line each of these jobs as a result of loss production, liquidated damages, delays to subcontractors, etc...
- 2) The direct cost impact of having to purchase the materials to enclose the cab and install a positive pressure environment ( a quick search for purchasing these units and costs are in excess of \$7,000 just for the cab)
- 3) The direct cost of having to employ someone to install these or outsource this work to have them completed
- 4) Safety. There are a majority of operators and pipe layers that communicate verbally during the course of the day. I understand hand signals can be utilized, however there is still a large number of pipe layers and operators that communicate verbally during the day. Having to switch this out could pose a safety risk to our workers.
- 5) Who classifies what equipment needs to be enclosed on a project. Is it anything regarding excavation, grading, sweeping, etc... In all reality they could definitely be saying to you that your whole fleet needs to have enclosures. That would just not be acceptable.

I am currently the Committee Chair for our organization (SUCA) and am looking to get our members more involved with this and actually spoke about this at our roundtable meeting this afternoon.

In your personal opinion would it do more good for our cause to have each member send a memo like the one above to you or would it be more beneficial for our organization to send an official letter?

Also, in closing any additional information, websites, talking points, resources that you think would be beneficial to us I would appreciate if you could lend me some assistance to make sure that all our members are up to speed on all of the issues would be greatly appreciated.

Thank you  
Kevin

Florida

George Kennedy,

While most of our equipment is air conditioned, the requirement to maintain “positive pressure” would restrict safe operation of excavators by not allowing doors and front and top windows to be opened during operation. This constraint would limit visibility of the work zone, and restrict oral and visual communication.

Steve  
Virginia

George:

One area I see that is not addressed is the use of rock material as pipe bedding.

The laborer in the trench protective system as well as the top man, excavator operator and operator filling a rock box would be subject to exposure under the terms of this mandate.

The complete crew would be subject to this standard substantially raising cost and slowing production.

Thank you.

Steve  
Iowa

George

Good afternoon. Just one more rule and regulation that no one in the government takes into consideration the associated cost of a new rule. Governments approach is every new rule or regulation has no associated cost, because they have no skin in the game. When you don't write a check, how much does it really cost, they haven't got a clue.

By adding something to regulations as simple as enclosed cabs for your heavy equipment with a filtering system, air conditioning and fresh flow air that doesn't add much, HOW about \$20,000 to \$25,000. Right now that would affect 12 pieces of my heavy equipment; I can only imagine what it will do to the rest of heavy earthmoving contractors.

The other item is the jack hammer with a continuous spray of water, did anyone put any thought into this. A jack hammer, with an air compressor, now you add a water tank, water truck or possibly a fire hydrant, you have an extra vehicle an extra employee no actually two extra employee's because you then have to have someone with a vacuum to suck up what was dust, now is slurry when water is added to dust, to meet the EPA regulations. It is just like a snow ball the more it rolls over the bigger it gets. Thank you for your service and your time

Mark  
Washington

George

This does not make sense. At the most all of these should be Best Management Practices. Unless there is proof that the workers are getting exposed to actionable levels of contamination then this should be treated the same as other hazardous material exposure. Only if workers are being exposed to actionable levels should we need to take time and expense related actions that may not be necessary. We actually already do some of these things like using water to control dust and using vacuum attachments on our tools. This is for safety and because of Clean Air Act. We are especially regulated on Military jobs. However from what I see in this table this is entirely overboard action unless there is actionable levels of the hazardous materials being exposed to workers. And even then if the actions that we currently take are not sufficient I would like to see some supporting documentation of this.

Michael  
Hawaii

George

OSHA's Proposed Rules for Exposure Control Methods for Selected Construction Operations  
General Observations:

- In the control methods where "Operate equipment such that no visible dust is emitted from the process," why is there also a requirement for Air-Purifying Protection such as masks?
- Several control methods require equipment and accessories that are currently not even manufactured.
- The majority of heavy equipment, especially equipment more than five years old, does not have cabs. Retrofitting equipment with cabs can cost in excess of \$10,000. This cost does not include the air conditioning, required filters, and positive pressure.
- OSHA does not require companies to have a respiratory program. With these proposed rules, every company would be required to have a respiratory program that requires medical exams, testing, fitting, masks, etc. This increases costs significantly.
- Water eliminates the hazard.
- Increased cost with having a water supply at jobsite.
- Some proposed rules are in direct conflict with current EPA requirements. Specifically, where it refers to delivering water to the process.
- Where does OSHA suggest that a HEPA filter be attached to a masonry saw?
- Collecting hazardous materials into a bag creates a bag full of hazardous materials which increases costs for disposal.
- Cabs and accessories required in these proposed rules also adds weight to the heavy equipment.
- Companies may have to hire an industrial hygienists who's average salaries can exceed one hundred thousand dollars per year.
- If equipment cannot be retrofitted, it must be replaced. Costs associated with replacing equipment would be significant.

Using Hand Operated Grinders

- Required equipment and/or accessories are not currently manufactured.
- Requirements for use can introduce new hazards to the process.

Using Jackhammers and other impact drillers

- Does this include jackhammer attachments for heavy equipment?
- The requirements create new hazards because proposed requirements for use would obstruct view of the person operating the equipment.
- Jackhammers are not currently manufactured to include dust collection or HEPA filters.
- All jackhammers in service today would have to be replaced in order to comply with these proposed rules.
- A person would have to be hired to apply water from a hose or sprayer. Not only does this increase the cost but it also creates a new hazard of water that can create slippery services (wet and/or ice), and adds the hazard to the person with hose/sprayer from flying debris. This also creates a conflict with EPA Regulations because of the run-off of the water containing contaminants.

Using Rotary Hammers or Drills (except overhead)

- These tools do not create airborne silica.
- No drills are currently manufactured with a bag/HEPA Filter.

### Operating Vehicle-Mounted Drilling Rigs for Rock

- Proposed rules creates hazards for worker to work under a shroud.
- Significant costs associated with installation of air conditioning, prefilters, and HEPA filters for the cab of heavy equipment.
- Also, creates a hazard because the equipment operator will be limited in communicating with anyone outside of the cab.

### Milling

- In order for no visible dust to be emitted from the drum box and conveyer belt the equipment would have to be retrofitted with a water system which costs tens of thousands of dollars.
- If a person operates in such a way as to prevent visible dust being emitted from the drum box and conveyer areas then a new hazard is introduced because the worker would be too close to the machine. There was a fatality in NM from a person being too close to a milling machine while it was in operation. It also introduces a noise hazard for the person watering down the conveyer and drum box.
- Also, this requirement would violate EPA rules about water with contaminants running off.
- This also introduces a new hazard with water that can cause slippery surfaces from water/ice.
- Milling machines are not currently equipped with filters and HEPA filters and would require very costly retrofitting accessories to the equipment.
- Water can cause significant damage to the wheel and conveyer.

### Using Handheld Masonry Saws

- Saws are not currently manufactured with local exhaust dust collection systems.

### Use of Heavy Equipment During Earthmoving

- What is OSHA's definition of "Heavy Equipment" in this particular rule?
- Retrofitting equipment with cabs cost in excess of ten thousand dollars per piece of equipment and that does not include the price for air conditioning and prefilters, HEPA Filters, and positive pressure.
- Hinders communication between the equipment operator and those working in close proximity.

### Safety Committee

New Mexico

### Hiring additional personnel to ensure compliance with proposed regulations:

- Industrial Hygienist - \$100K per year
- Person to administer water \$15 per hour plus fringe
- Respiratory Program averages \$200 per employee per year.

### Other Costs:

- Additional water trucks/pumps/clean up on jobsites
- Violation fines to EPA

- Installation and purchase of HEPA Filters
- Adds weight to the heavy equipment
- Additional costs for removal of hazardous waste
- Retrofitting tools with filtered dust collection systems
- Replacing tools that do not comply or cannot be retrofitted with requirements

Safety Committee  
New Mexico

Attachment 2 -- Costs for compliance in regards to heavy equipment:

John Deere machines are built with cabs, pressurized cabs with a/c.

A JD644K's (4-wheel drive loader) cost is increased by about \$8000.00 + labor to add the standard cab.

A JD410K backhoe cost is increased by about \$4000.00 + labor to include a pressurized cab with a/c.

If a contractor was so inclined to add a pressurized cab to a wheel loader or backhoe, it is estimated that the labor in time would be as many as 60 to 80 man hours at a shop rate of \$100/140 an hour plus the freight to shop a cab from the Deere factory. Cab costs listed above are about 40% of the cost shown above.

Volvo –

200 Size Excavators:

-Come with cabs

-A/C \$2,600.00 + labor \$110/hour

-not sure what filtration system or positive pressure would be

Backhoe- BL60 Size:

-Standard Cab \$8,945 + labor \$110/hour

-A/C \$3,100 + labor \$110/hour

The backhoe is the machine that would really hurt most businesses; first they are very common in our industry and second because they often come canopied as opposed to cabbed.

Contractors reported that estimated costs were between \$150,000 to \$800,000 per company just for complying with the heavy equipment requirements.

Safety Committee, New Mexica