Silica Dust Poses Danger to Construction Workers

By Scott Mabry, Assistant Director, OSH Division

Construction work is not for the faint of heart. The work can be grueling. The weather is often uncooperative. Mistakes can be deadly. And to make matters tougher, other hazards can be difficult if not impossible to see, feel or hear.

Respirable crystalline silica—very small particles at least 100 times smaller than ordinary sand you might find on beaches and playgrounds—represents one of those hazards.

"Respirable silica is one of those dangers that you know about but think you'll never experience," said Paul Sullivan, Compliance West bureau chief for the Occupational Safety and Health Division. "The trouble is, the danger is real and there is great potential for exposure."

Exposure to respirable silica can have devastating effects on a worker's health. These particles can cause silicosis, a deadly lung disease, lung cancer, chronic obstructive pulmonary disease (COPD) and kidney disease. Silicosis can take up to 10 or more years to develop when a worker is exposed daily to low concentrations of silica dust. When exposure levels are high, symptoms can occur within weeks. Symptoms include difficulty in breathing, regular coughing, fever, weight loss and night sweats.



A construction worker creates dust containing silica while cutting through concrete. Exposure to respirable silica dust can cause silicosis, a deadly lung disease.

Construction work that often exposes workers to silica includes abrasive blasting with sand; sawing brick or concrete; sanding or drilling into concrete walls; and grinding mortar. Manufacturing brick, concrete blocks, stone countertops, or ceramic products; and cutting or crushing stone often results in high worker exposures to respirable crystalline silica in manufacturing operations. This is particularly concerning due to the confining nature of the indoor environment, especially if wet methods or local exhaust ventilation is not being used. Industrial sand used in certain operations, such as foundry work and hydraulic fracturing (fracking), is also a source of respirable crystalline silica exposure.

To better protect workers exposed to respirable crystalline silica, OSHA has issued two new respirable crystalline silica standards: one for construction, and the other for general industry and maritime. The NCDOL's OSH Division began enforcing provisions of the standard for **construction** on Sept. 23, 2017, and began enforcing provisions of the standard for **general industry** and maritime on June 23, 2018.

"We see construction activity in our area increasing at a rapid pace, with no signs of slowing anytime soon," Sullivan said. "The construction standard has alternatives, which we feel will be useful for small employers." To see those options for **construction**, please visit the USDOL OSHA Silica page.



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From Labor Commissioner Cherie Berry

The Safety Awards season wrapped up on June 28 at the Crowne Plaza in Hickory. During the three-month season, I traveled across North Carolina recognizing thousands of employers and employees for maintaining exceptional workplace safety and health records. It is always a pleasure to see many of our Labor Ledger subscribers at the 30 banquets scheduled across that state. Attending each banquet and presenting each award is a highlight of my year. Please take a minute to read the article on page 5 for some of the highlights of this year's season.

Summertime in North Carolina means heat and humidity, a combination that leads to high readings on the heat index. While we have experienced periods of slight respite from the heat this July, we still have a couple of months left in the summer season and it will likely heat back up. Heat can cause a serious risk to workers, especially those working in agriculture and construction. Even workers indoors may be exposed to extreme heat.

If you are working in extreme heat, the Labor Department recommends frequent rest breaks, particularly between noon and 3 p.m. when the sun is the strongest. Drink plenty of water, up to 1 cup every 15 minutes. Avoid alcoholic and caffeinated beverages. Please read the article on page 3 to learn more about the signs and symptoms associated with heat-related illnesses.





Cherie Berry

Commissioner of Labor

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Recognition Roundup

Recognition Roundup identifies businesses that qualify for one of the N.C. Department of Labor's recognition programs. Congratulations to all of the recent award recipients. *Visit the NCDOL website for a complete list*.



SHARP Sites

Well Spring Retirement Community Inc, Greensboro



Rising Star

Cintas Corp. #J77 – Wilmington, *Castle Hayne* Cintas Corp. – Location #249, *Charlotte* Selee Corp., *Hendersonville*



Carolina Star *Recertification

Coats North America, Marion*
Nutrien, Aurora*
Glen Raven Inc., Norlina*
DSM Dyneema LLC, Greenville



Public Sector Star *Recertification

City of Charlotte – Aviation Department, Division of Administration, *Charlotte*



Building Star *Recertification

Holder Construction Co., *Charlotte* Rodgers Builders Inc., *Garner** Weekley Homes LLC, *Cary**



Know the Signs of Heat-Related Illnesses to Beat the Heat

By Mary Katherine Revels, Public Information Officer

Now that summer is upon us, the Labor Department urges those who work outside or in hot environments to learn the signs and symptoms of heat-related illnesses. North Carolina employees work in a wide variety of high temperature environments. Examples may include outdoor jobsites, such as those found in the construction and agriculture industries, but also indoor environments without air conditioning, such as manufacturing facilities, kitchens and dry cleaners. Risks from exposure to high ambient temperatures are exacerbated by physically demanding jobs or additional heat sources in the environment, such as hot asphalt, ovens or dryers. When the amount of heat from all sources becomes more than the body can control through perspiration, heat stress can develop.



NCDOL partners with Lamar Advertising Co. to display this "Beat the Heat" billboard along US 301 N in Rocky Mount.

The heat index measures how hot it feels when relative humidity is factored in with the actual air temperature. If the heat index reaches a dangerous level, a heat advisory may be issued. Already in 2018, several counties have been under a heat advisory.

"In North Carolina, the heat index is known for being extremely high, especially during the months of July and August," Labor Commissioner Cherie Berry said. "The department focuses on bringing awareness to this workplace hazard each year as it is crucial for employers and employees to understand the signs and symptoms of heat stress. Understanding the signs and symptoms could help save a life."

Heat cramps are usually the result of hard physical labor in a hot environment, often resulting from an imbalance of electrolytes in the body. Heat exhaustion is a result of the combination of excessive heat and dehydration. Untreated, heat exhaustion can lead to heat stroke.

Heat stroke is the most serious disorder associated with heat stress and can be deadly if not treated properly. Symptoms of heat stroke include the following:

- Hot, dry skin or profuse sweating
- High body temperature
- Hallucinations
- Chills

- Confusion/dizziness
- Slurred speech
- Throbbing headache

"The Agricultural Safety and Health Bureau conducts field sanitation inspections to ensure that agricultural workers are provided with an adequate supply of cool drinking water, so that workers can stay hydrated," said Beth Rodman, ASH bureau chief. "It is recommended that workers drink about 4 cups of water every hour while the heat index is 103 to 115°F."

One great tool to take advantage of is Federal OSHA's Heat Safety Tool. Federal OSHA developed a smart phone app that helps workers and supervisors to calculate the heat index for their worksite, and, based on the heat index, displays a risk level to outdoor workers. Then, with a simple "click," you can get reminders about the protective measures that should be taken at that risk level to protect workers from heat-related illness. Those reminders include drinking enough fluids, scheduling rest breaks, planning for and knowing what to do in an emergency, adjusting work operations, gradually building up the workload for new workers, training on heat illness signs and symptoms, and monitoring each other for signs and symptoms of heat-related illness. The OSHA Heat Safety Tool is available for both Android and iPhone. In addition, NCDOL's website offers an occupational safety and health topic page on "Heat Stress." This topic page includes overall information, solutions and regulations on heat stress.











In addition to boilers, the Boiler Safety Bureau inspects many types of pressure vessels, including hyperbaric chambers. Hyperbaric chambers, commonly called PVHOs, are pressure vessels designed for human occupancy, which are regularly used in treating divers for decompression sickness. These vessels are becoming more widely used for treating carbon monoxide poisoning, wound healing

and various other medical treatments. Inspections of these PVHOs are critically important, as humans are secured inside the pressure boundary during operation. While normally operated at relatively low pressures, a sudden pressure drop of only a few of pounds of pressure could cause serious injury or death to the occupant. Boiler inspectors verify PVHOs are built to an accepted standard, and that they are in good working order by closely inspecting material condition and safety devices.



Boiler inspector John Kirkland uses a flashlight to check the serial number on one of the hyperbaric chambers at Wayne Memorial Hospital during a routine inspection. Hyperbaric chambers are inspected by the bureau every two years.

Labor Department Recognizes Creedmoor Facility

By Mary Katherine Revels, Public Information Officer

The N.C. Department of Labor certified Veolia Environmental Services Technical Solutions as a participant in the Carolina Star Program during a special ceremony held Thursday, July 19, at the Creedmoor facility. Labor Commissioner Cherie Berry presented company officials with the acrylic star and the Carolina Star flag.

"Being a Carolina Star shows the community that you are committed to a safe work environment," Commissioner Berry said. "A good safety record is something to be proud of, and I am happy to recognize all Veolia employees for working hard to make safety a priority."

The Carolina Star is the most prestigious safety recognition given by the N.C. Department of Labor. Companies that qualify for the award have exemplary safety and health programs in the workplace. There are 149 Carolina Star sites across North Carolina.

Veolia's Creedmoor facility is part of Veolia North America and has been servicing the area since 1988. The site services customers' waste disposal needs in Western N.C. and in South Carolina.

"Veolia places great importance and emphasis on the health and safety of our employees, customers and the communities in which we operate," said James Hughes, Veolia general manager, Mid-Atlantic Branch. "Today's initial authorization of our Creedmoor site highlights our continuous goal of zero accidents and injuries. This authorization follows our reauthorization of our Mooresville site earlier this year. We are proud of the dedication and hard work our employees have invested in this site to reach this status."

Veolia has another North Carolina location in Mooresville. That site has been a Carolina Star site since 2014.



Employees of Veolia Environmental Services Technical Solutions gather with Labor Commissioner Cherie Berry at the Creedmoor facility to display the Carolina Star flag during a special ceremony Thursday, July 19, 2018.

2018 OSHA Standards Books Available

By Melissa Scally, Safety Standards Officer

The Education, Training and Technical Assistance Bureau has received the new standards books for general industry and construction. The new books include all standards adopted through January 2018. The NCDOL **website** includes a page that lists recently adopted standards. You may place an order **online** or by calling 919-707-7876. The price remains \$37 for the general industry standards and \$32 for construction.

The books include the state-specific standards adopted in the N.C. Administrative Code in addition to the federal OSHA standards. Construction books also include the Occupational Safety and Health Act of North Carolina.

"The books contain several great features again this year," said Hollis Yelverton, ETTA Standards Section supervisor. "The color-coded RegLogic system is used in the state-specific section as well as the federal section. The color coding makes the standards easier to

read. The construction industry standards book also contains an insert that lists all the general industry standards that are referenced in the construction standards."

The books include free online access to the standards called Regs2Go™. When you buy either the 1910 or 1926 book, you will receive a serial number on the page after the state-specific standards so you can register online. Just set up a free account with your name and email address, enter the serial number, and start reading.

Some of the benefits of using Regs2Go include:

- Access the regulations online via your computer, tablet or cell phone.
- Works on Windows, Android and Apple products.
- Search function allows you to jump to the topic at hand.
- Highlights letters of interpretation and recent changes.



Safety Awards Season Wraps Up

By Eursula Joyner, Safety Awards Coordinator

20th Consecutive Year

Diversified Graphics Inc.

Lee County, Enrichment Center Senior Services

Kidde Aerospace and Defense

Martin Marietta Materials, NC East District

Capricorn Electronics Inc.

Hildreth Wood Products Inc.

Mundy Maintenance, Services and Operations

Neo Corp.

21st Consecutive Year

City of Concord

HSM Solutions

City of Sanford, Financial Services

Potashcorp, Aurora, Human Resources Department

Potashcorp, Aurora, Accounting

Potashcorp, Aurora, Health and Safety Department

Potashcorp, Aurora, Administration and Public Affairs

Potashcorp, Aurora, Maintenance Services Department

Potashcorp, Aurora, Materials Department

Campbell Soup Supply Co.

22nd Consecutive Year

Onslow County Government, Register of Deeds

Onslow County Government, Museum

Onslow County Government, Veteran Services

Onslow County Government, Cooperative Extension

Onslow County Government, Board of Elections

Harrison Construction Co., Hayesville Quarry

City of Sanford, Water Treatment Plant

Duke Energy, Lincoln Combustion Turbine Plant

County of Wilson, Department of Social Services

23rd Consecutive Year

Debbie's Staffing

24th Consecutive Year

The N.C. Department of Labor concluded another successful safety awards season on June 28 in Hickory, a little more than three months after the first banquet was held in Lincolnton. This year, NCDOL presented 3,327 awards to workplaces for outstanding workplace safety and health achievements. The awards included 2,696 gold awards, 523 silver awards and 108 Million-Hour Awards earned by companies.

The banquets are sponsored by various chambers of commerce, the Safety and Health Council of North Carolina and many businesses across the state.

"We are fortunate to have co-sponsors to assist us in making each banquet a success," Labor Commissioner Cherie Berry said. "It would be hard to continue the program without their support."

The Safety Awards Program began in 1946 and since then has recognized thousands of award recipients throughout North Carolina. This year we had record-breaking attendance with more than

Under program rules, recipients must be free of fatal accidents at the site. The gold award criteria are based on a DART rate—which includes days away from work, restriction or transfer—that is at least 50 percent below the industry rate. To receive a silver award, applicants must attain a days away from work incidence rate of at least 50 percent below the industry average. Million-hour awards are earned for 1 million employee hours worked, or multiples thereof, with no injuries or illnesses involving days away from work.

"Presenting safety awards is such an honor for me and it is encouraging to see the overall attendance grow each year," Labor Commissioner Cherie Berry said. "Many banquets saw record attendance, which shows how much these companies value workplace safety and health."

Participation in the program is voluntary. Interested companies may fill out the application request form on the NCDOL website. Applications will be sent in January.



Jennifer Leamons, the chef at Atrium Health Care-Stanly, uses her creativity to feature a "Cherie Berry Tart" for all guests to enjoy at the Albemarle Safety Awards Banquet. The luncheon was held at the hospital's Special Events and Education Center Monday, June 18, 2018.

Safety Award Highlights

26th Consecutive Year

Asheville Urological Associates Inc. FMC, Lithium Division, Technology Department

27th Consecutive Year

C&R Hard Chrome Service Inc. Global Nuclear Fuels—Americas, Fuel Component Operation Curtiss-Wright Sensors & Controls, Actuation Systems Division

28th Consecutive Year

Del-Mark Inc.

Vulcan Construction Materials, Mideast Division, Smith Grove Quarry Safety and Health Council of North Carolina, Five Lakepointe Plaza

29th Consecutive Year

Clariant Corp., Monroe Road Charlotte Facility

30th Consecutive Year

High Valley Construction, Maintenance Corp. Town of Valdese, Administrative Department Apac-Atlantic Inc., Candor Sand Plant New Hanover County, Human Resources Department

31st Consecutive Year

Glen Raven Inc., Executive Offices

32nd Consecutive Year

Liggett Group, Administrative Office Syngenta Crop Protection LLC, Greensboro Facility Town of Garner, Planning Department

33rd Consecutive Year

New Hanover County, Finance Department

36th Consecutive Year

R.J. Reynolds Tobacco Co., Research and Development

38th Consecutive Year

Liggett Group, Electric Shop

39th Consecutive Year

National Gypsum Co., Corporate Offices

43rd Consecutive Year

Louisiana Pacific, Roaring River

46th Consecutive Year Ecno Oil Inc.

47th Consecutive Year

DAK Americas, Cape Fear Support Employees

50th Consecutive Year

Heritage Home Group, Lenoir Logistics Center

4 Million Hours

Caterpillar, Sanford, Building Construction Products Division

Glen Raven Custom Fabrics, Burnsville Division Kidde Fire Safety

Novant Health, Presbyterian Medical Center Novant Health, Rowan Medical Center Unifi Manufacturing Inc., Corporate office

5 Million Hours

Electrolux Major Appliances GKN Driveline, Alamance University of North Carolina at Charlotte

6 Million Hours

Milliken & Co., Golden Valley Plant

9 Million Hours

Keihin Carolina System Technology Inc.

10 Million Hours

Syngenta Crop Protection LLC, Raleigh

15 Million Hours

Syngenta Crop Protection LLC, Greensboro

Congratulations to all our Safety Award and Million Hour Recepients!

GE Aviation City of Asheboro, Administrative

25th Consecutive Year

Lee County, Library System Southern Industrial Constructors Inc., GE Wilmington Site

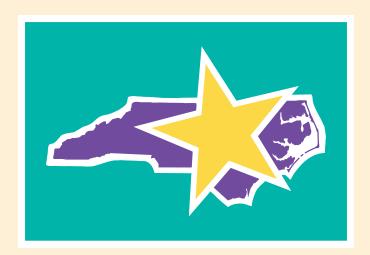
New Feature Added to NCDOL Website

By Wanda Lagoe, Bureau Chief, Education, Training and Technical Assistance

To assist employers with identifying the standards that apply to their worksite, the OSH Division developed a series of questions to help employers in this endeavor. The information can be found under "Which OSHA Standards Apply" on the NCDOL website.

At this landing page, you will see questions asking which "Parts" of the OSHA standards may apply. This includes 29 CFR Part 1904—Recordkeeping standards; 29 CFR Part 1910—General Industry standards; 29 CFR Part 1915—Shipyard Employment; 29 CFR Part 1917—Marine Terminals; 29 CFR Part 1926—Construction standards; 29 CFR Part 1928—Agriculture standards; and the North Carolina State Specific standards. After reviewing a summary of each Part, the employer will be able to decide which of them applies. If a Part applies, a link will take the employer to the subparts that are broken down into a series of questions as well. At this point, the employer can identify the specific OSHA standards within the subpart that apply to them. This format is also followed for the state-specific standards to help the employer identify which standards apply to them.

Within the information provided for the various standards are resource materials that the OSH Division has available that will help the employer comply with the respective standards. This includes example training presentations, training videos (including streaming videos), example programs, safety and health publications, compliance documents, along with access to free webinars and classroom training courses.



Carolina Star Safety Conference

Oct. 3–5, 2018

Click here for more information.



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By Judyth Niconienko, State Plan Coordinator

Fatal Event: On May 16, 2016, a 40-year-old man was electrocuted when the load line on a Manitex truck-mounted crane came into contact with a 13.2 kV overhead powerline. At the time of the accident,

the victim and a coworker were performing rigging activities. The victim was holding onto the crane hook when the crane cable came into contact with the overhead line. There was an electrical flash and the victim collapsed.

Investigative findings: A 150 foot self-supporting telecommunications tower was to be decommissioned which required the dismantling of the tower and disposal of the materials.

To accomplish this goal a contractor was hired. Due to the contractor not having certified tower technicians, that could climb the tower, they subcontracted with a company that had the necessary certified staff.

A joint pre-job meeting was held and it was decided that a temporary runway was needed to get the truck crane to the tower to prevent it from sinking into the soft earth. Heavy wooden 'swamp mats' were laid in a pathway. It was decided to use a pickup truck on site to drag the mats into position rather than use the crane because the 13.2kV overhead power line was in close proximity.

The subcontractor's staff climbed the tower and dismantled it and one of their staff operated the crane to lower the sections of the tower to the ground. The primary contractor's staff unhooked the sections of tower, cut them into smaller pieces and loaded them into a scrap container.

After the tower dismantling portion of the job was completed the last thing to be done was to load the swamp mats onto the back of the crane truck. Another joint meeting was held and it was decided that if all the mats were pulled by the pickup truck to the crane truck that the crane could then safely be used to pick up the mats and load them. Doing this would maintain a 10-foot distance from the overhead powerline. Two staff members were designated to be riggers on the ground, one being the victim. They would use a sling to attach the mats to the crane hook and then the crane operator would hoist them onto the crane truck where another staff member would unhook the mats. Both the victim (on the ground) and the rigger on the truck were assigned an additional duty of being spotters.

The victim was holding the crane hook and guiding it into place when there was an electrical flash and he collapsed. It was determined that the crane cable that the hook was attached to came in contact with the overhead power line.

The crane operator boomed back the crane away from the power line and then ran to the victim. He started CPR and the other ground rigger called the ambulance.

Discussion: When working around overhead power lines with cranes many decisions must be made and precautions must be taken before any equipment is operated. It must be determined if any part of the equipment to be used, load line or load if operated to the equipment's maximum working radius in the work zone, could get closer than 20 feet of a power line. This assessment is crucial.

If it is determined that the equipment could get closer than the minimum approach distance of 10 feet then encroachment precautions such as the use of an elevated warning line, a dedicated spotter, proximity alarm or a range control warning device should be utilized. During the investigation it was revealed that the crew decided to use spotters. Unfortunately, the spotters were given additional responsibilities and were not able to fulfil these duties.

To be considered a dedicated spotter his/her sole responsibility is to watch the separation between the power line and the equipment, load line and load (including rigging and lifting accessories), and ensure through communication with the operator that the applicable minimum approach distance is not breached. Also, no part of the crane, its load line or the load is permitted below an energized power line. In this case part of the swamp mat, to be loaded, was directly below the power line.

Recommendations:

- Make a full risk assessment of the site and the size and reach of any machinery or equipment being used.
- Conduct a planning meeting with all the workers who will be in the area of the equipment to review the location of the power line and the steps that will be implemented to prevent encroachment/electrocution.
- Implement all the precautions outlined in the encroachment plan.
- Spotters must be dedicated to performing the duties of a spotter when the crane is in operation and NO other job duties can be assigned to them during this time.
- If there is a question of distance from the power line due to the proximity of the equipment to the hazard, then multiple methods should be utilized to avoid any contact.
- Speed or ease of completing a project should not override taking the appropriate safety measures.

WORKPLACE WORRIES



By Christine Ryan, Administrator, Labor Standards Section

Q: What are the legal holidays that my employer has to observe?

A: None. There is no such thing as required legal holidays that employers have to observe. It is entirely up to your employer to give holiday time off with or without pay, or not to give any time off for holidays at all. However, once your employer does promise to give holiday pay, your employer must put its holiday policy in writing and make it available to its employees as it should with all wage benefit promises. Also, it is entirely up to your employer

to decide which holidays it wants to observe if any at all.





Bulletin Board

Mine and Quarry Training

New Miner Training

Aug. 13–15, Raleigh Sept. 24–26, Wake Forest

Annual Refresher Training

Aug. 16, Raleigh Sept. 27, Wake Forest

To register for any of these classes, call the Mine and Quarry Bureau at 919-707-7932.

10-Hour General Industry Awareness Course

Aug. 14-15, Morehead City

Click here for more information.

This course is designed to help employers understand OSH regulatory requirements and also ensure employers and employees understand the requirements necessary in providing an acceptable safety and health program for the workplace. This course will provide a basic overview of the General Industry Safety and Health Standards, 29 CFR 1910.

Long Term Care Workshop

Aug. 14, Raleigh

Click here for more information.

Aug. 21, Charlotte

Click here for more information.

This course provides an overview of safety and health hazards associated with the long term care industry. Nursing Home Administrators are eligible for 7.0 CEU credits.

Complying With OSHA General Industry Standards Beginners Level

Sept. 26-27, Raleigh

Click here for more information.

This beginner's level two-day course will cover general industry standards, state specific standards for general industry and the recordkeeping standards. Upon completion, the attendee will know which standards apply to them, what requirements need to be met to comply with the applicable standards and most materials needed to meet the requirements. This includes a safety and health management program, PowerPoint presentations, training handouts, and an industry guide detailing the standards that have special requirements (i.e., inspections, tests, training, programs).

10-Hour Construction Industry Course

Sept. 5-6, Durham

Click here for more information.

This course is designed to help employers understand OSH regulatory requirements and ensure employers and employees understand the requirements necessary in providing an acceptable safety and health program for the workplace. This course will provide a basic overview of the Construction Industry Safety and Health Standards, 29 CFR 1926.

OSH Webinar Courses

Visit the OSH Training Schedule Calendar here to view upcoming internet training and other safety courses. Check the calendar for new courses being added soon. Among the courses being offered include:

- Fall Protection
- Scaffolding
- Toxic and Hazardous Substances
- Recommended Practices for Safety and Health Programs