Manual Section 000	Issue Date 03/17/16	Revision Date 01/01/24	Policy Number LLCP-036
	Silica Control Plan		

1. Applicability and Scope

Applicability

This Exposure Control Plan (Plan) applies to Company personnel who are potentially exposed to airborne concentrations of respirable crystalline silica (silica) because of their work activities, or proximity to the work locations where airborne silica is being emitted. This Plan also applies to Company superintendents, foremen, or safety personnel are responsible for overseeing a subcontractor's operations that have the potential to expose personnel to airborne concentrations of silica at or above regulatory and industry action levels and exposure limits. A copy of the Plan is available to all employees via the Safety Portal.

Scope

All LLC Companies including, Blanchard Industrial, LLC, GIS Engineering, LLC, Grand Isle Shipyard, Inc., and GWIS, Mack Steel, NuWave, Sun Industries, Valvemax, Discovery Industries, Inc.; hereafter identified as "Company".

This Plan describes the hazards associated with projects involving potential exposure to airborne concentrations of silica and the issues to be addressed during these projects. These projects include, but are not limited to:

- Use of stationary masonry, handheld or walk-behind power saws used to cut concrete, tile, concrete masonry block, sheet rock, gypsum fiber roof board, or any other product containing quartz.
- Rig-mounted or free standing core saws or drills (including impact and rotary hammer drills) used to penetrate concrete, concrete masonry block, sheet rock, gypsum fiber roof board, or any other structural component or product containing quartz.
- Walk-behind milling machines or bead blasters used for surfacing activities on concrete, concrete masonry block, asphalt, or any other product containing quartz.
- Blasting or painting with materials containing Silica.
- Hand or power tool sanding of painted surfaces. Current latex paint products contain quartz and the painted substrate (sheet rock, concrete masonry block, concrete) contains quartz.
- All housekeeping operations associated with the activities described above.

Company employees who work in proximity to silica-related operations must be aware of safe work practices and take all necessary precautions associated with avoiding and minimizing airborne silica exposure.

2. Regulatory Review

Occupational Safety and Health Administration (OSHA) 29 CFR 1926.1153: Respirable Crystalline Silica (Construction Industry) and 29 CFR 1910.1053: Respirable Crystalline Silica (General Industry), contain regulatory requirements specific to respirable crystalline silica. This Written Exposure Control Plan is developed in accordance with the requirements in 29 CFR 1926.1153(g) and will be evaluated at least once per year and as necessary. Situations where reevaluation may be necessary include regulatory updates, changes in equipment, and exposure incidents.

3. Project Planning

Training Requirements

Company employees who work on projects where they could be exposed to airborne silica will be provided training in silica hazards in accordance with this program and the hazard communication standard (29 CFR 1910.1200). Each employee will have access to labels on containers of crystalline silica and safety data sheets, and be provided information on the health hazards of silica including cancer, lung effects, immune system effects, and kidney effects.

In addition, employees will be provided training and information regarding specific activities that could result in airborne silica exposure, the specific engineering controls, work practices and respiratory protection requirements to mitigate the potential airborne silica exposures.

This training will provide a discussion of silica hazards, initial exposure determination either by complying with 29 CFR 1926.1153 Table 1 requirements or air monitoring, specific engineering and work practice control measures, personal protective equipment (PPE), and medical surveillance requirements. The training will also identify the competent person for silica exposure identification and determination of control requirements. All employees will be provided with access to a copy of 29 CFR 1910.1153 and be trained on its contents.

Medical Surveillance Requirements

The Company shall institute medical surveillance for any employee required by this Plan to where a respirator 30 or more days per year. Initial medical surveillance consists of medical and work history with emphasis on: past, present, and anticipated exposure to silica, dust and other agents affecting the respiratory system; any history of respiratory system dysfunction, including signs and symptoms of respiratory disease (e.g., shortness of breath, cough, wheezing); history of tuberculosis; and smoking status and history; a physical examination with emphasis on the respiratory system; chest X-ray; a pulmonary function test to include forced vital capacity (FVC) and forced expiratory volume in one second (FEV1) and FEV1/FVC ratio; testing for latent tuberculosis infection; and any other tests deemed appropriate by the Occupational Medicine Provider. Subcontractors are responsible for implementing a medical surveillance program for their employees.

Competent Person Requirements

The Corporate HSE Director is responsible for this program and shall appoint a competent person to inspect and oversee all activities with potential airborne silica exposure. Subcontractors working on projects within the scope of this Program shall appoint a competent person capable of executing the duties described herein. The competent person must have training in the inspection of work areas and equipment and in the determination of safe working conditions. This person shall have a working knowledge of the 1926.1153 standards, shall be capable of identifying airborne silica hazards, shall determine the need for initial and additional exposure monitoring, shall recommend and implement engineering and work practice controls, shall establish levels of PPE, and shall have the authority to take action to eliminate hazards and correct incidences of noncompliance.

Planning Activities

Projects where anticipated activities involve concrete cutting, grinding, sandblasting, drilling, coring, or other abrasive operations are treated as potential sources for airborne silica exposure. Additionally, existing structures and materials such as sheetrock, any painted surfaces with low volatile organic compounds, tile, brick, or some insulation products may contain silica. Likewise, new material installation may involve silica-containing mortar, paints, or insulation. Where process knowledge indicates the presence of silica, the Company will either implement all controls required by 1926.1153 Table 1- Exposure Control Methods for Selected Construction Operations or conduct an initial determination in accordance with 29 CFR 1926.1153(d)(2).

4. Project Execution

Safe Work Practices

The requirements of this section are to be followed by all employees, who may be exposed to airborne concentrations of silica at or above the regulatory limits.

Exposure Assessment

Employees shall comply with and implement all controls required by 1926.1153 Table 1- Exposure Control Methods for Selected Construction Operations which are listed below.

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
Stationary masonry saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade; Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions	None	None
Handheld power saws (any blade diameter)	Use saw equipped with integrated water delivery system that continuously feeds water to the blade Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions:		
	-When used outdoors	None	APF 10
	-When used indoors or in an enclosed area	APF 10	APF 10
Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)	For tasks performed outdoors only: Use saw equipped with commercially available dust collection system Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency	None	None
Walk-behind saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions:		
	-When used outdoors	None	None
	-When used indoors or in an enclosed area	APF 10	APF 10
Drivable saws	For tasks performed outdoors only: Use saw equipped with integrated water delivery system that continuously feeds water to the blade Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions	None	None
Rig-mounted core saws or drills	Use tool equipped with integrated water delivery system that supplies water to cutting surface Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions	None	None

Handheld and stand-mounted drills (including impact and rotary hammer drills)	Use drill equipped with commercially available shroud or cowling with dust collection system Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism Use a HEPA-filtered vacuum when cleaning holes	None	None
Dowel drilling rigs for concrete	For tasks performed outdoors only: Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter cleaning mechanism Use a HEPA-filtered vacuum when cleaning holes	APF 10	APF 10
Vehicle-mounted drilling rigs for rock and concrete	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector	None	None
	OR		
	Operate from within an enclosed cab and use water for dust suppression on drill bit	None	None
Jackhammers and handheld powered chipping tools	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact:		
	-When used outdoors	None	APF 10
	-When used indoors or in an enclosed area	APF 10	APF 10
	OR		
	Use tool equipped with commercially available shroud and dust collection system Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism:		
	-When used outdoors	None	APF 10
	-When used indoors or in an enclosed area	APF 10	APF 10
Handheld grinders for mortar removal (*i.e.*, tuckpointing)	Use grinder equipped with commercially available shroud and dust collection system Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism	APF 10	APF 25

Handheld grinders for uses other than mortar removal	For tasks performed outdoors only: Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions	None	None
	OR Use grinder equipped with commercially available shroud and dust collection system Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism:		
	-When used outdoors	None	None
	-When used indoors or in an enclosed area	None	APF 10
Walk-behind milling machines and floor grinders	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions	None	None
	OR Use machine equipped with dust collection system recommended by the manufacturer Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes	None	None
Small drivable milling machines (less than half-lane)	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant Operate and maintain machine to minimize dust emissions	None	None
Large drivable milling machines (half-lane and larger)	For cuts of any depth on asphalt only: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust Operate and maintain machine to minimize dust emissions	None	None
	For cuts of four inches in depth or less on any substrate: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust Operate and maintain machine to minimize dust emissions	None	None
	OR		

	Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant Operate and maintain machine to minimize dust emissions	None	None
Crushing machines	Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points) Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station	None	None
Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (*e.g.*, hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	Operate equipment from within an enclosed cab	None	None
	When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions	None	None
Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: Demolishing, abrading, or fracturing silica-containing materials	Apply water and/or dust suppressants as necessary to minimize dust emissions OR	None	None
	When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab	None	None

Communication of Hazards

Each employee shall be provided training and demonstrate knowledge and understanding of the following:

- Health hazards associated with exposure to respirable crystalline silica
- Specific tasks that could result in exposure to respirable crystalline silica
- Specific measures that are required to protect employees from exposure to respirable crystalline silica, including engineering controls, work practices, and required use of respiratory protection
- The contents of the 29 CFR 1926.1153
- The identity of the competent person
- Purpose and description of the medical surveillance program

A written compliance program shall be made available to all affected employees. In addition, notification to owners, contractors, and other personnel working in the area shall be made.

Control Methods

- Engineering and work practice controls, including administrative controls, shall be implemented to reduce and maintain employee exposure to silica at or below the PEL, to the extent that such controls are feasible.
- Where all feasible engineering and work practice controls that can be instituted are not sufficient to reduce employee exposure to or below the PEL, such controls shall be used, nonetheless, to reduce employee exposure to the lowest feasible level (and in conjunction with respiratory protection).
- Respiratory protection shall be selected based on guidance in 1926.1153 Table 1 or based on a Certified Industrial Hygienist's or competent person's assessment of the potential airborne exposure that may be created by the means

and methods of work (high energy operations with high airborne dust generation or low energy operations with low dust generation).

- When using mechanical ventilation to control exposure, regularly evaluate the system's ability to effectively control exposure.
- If administrative controls are used to limit exposure, establish and implement a job rotation schedule that includes employee identification as well as the duration and exposure levels at each job or work station where each affected employee is located.
- A written compliance program shall be established and implemented prior to the start of operations within the scope of this Written Compliance Plan. The written program shall outline the plans for maintaining employee exposure below the PEL.
- Maintain all surfaces as free as possible from accumulations of silica. Select methods for cleaning surfaces and floors that minimize the likelihood of silica becoming airborne (such as using a HEPA vacuum).
- If vacuuming is the method selected, specialized vacuums with HEPA filtration are required. Methods to use and empty vacuums in a manner that minimizes the reentry of silica into the workplace shall be described and used. Use of household vacuums with HEPA filters are not allowed at any time for the collection of dust or debris that contains silica.
- Never use compressed air to remove silica from any surface unless it is used in conjunction with a ventilation system designed to capture the airborne dust created while using the compressed air.
- Employees shall not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in any areas where exposure to silica is above the PEL (in other words, regulated areas).
- Do not allow employees to leave the workplace wearing any protective clothing or equipment that is required to be worn during their work shift without HEPA vacuum removal of dust.
- Where feasible, install shower facilities and require employees who work in regulated areas to shower at the end of their work shift. Also provide an adequate supply of cleaning agents and clean towels.
- Provide hand washing facilities for use by employees working in regulated areas. Furthermore, require employees to wash their hands and face at the end of the work shift and prior to eating or entering eating facilities, drinking, smoking, or applying cosmetics.
- Eating facilities or areas shall be provided for employees working in regulated areas. These facilities shall be maintained free of silica contamination and shall be readily accessible to those employees.

Personal Protective Equipment (PPE)

Respiratory protection must be used for the following conditions:

- During periods when employee exposure to airborne silica exceeds the PEL
- For work operations where engineering and work-practice controls are not sufficient to reduce employee exposure to or below the PEL
- During periods when an employee requests a respirator
- During periods when respirators are required to provide interim protection while conducting initial exposure assessments
- Powered air-purifying respirators (PAPR) shall be provided to employees who request such a respirator to use where it will provide adequate protection.
- Employees shall be provided, at no cost, protective work clothing and equipment including cotton coveralls or similar full-body clothing, gloves, hats, shoes or disposable shoe coverlets, face shields, vented goggles, or other appropriate PPE.

Record Retention

Records of all monitoring data, training, medical surveillance and associated data shall be maintained as required by the regulation.