CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM TOPIC: SILICA EXPOSURE CONTROL PROGRAM EFFECTIVE DATE: 2/1/2018 SUPERSEDES: New SECTION: RCP #20

PURPOSE

This program establishes an exposure control plan that identifies tasks involving silica exposure and methods used to protect employees. City employees are required to implement the components of this program to ensure compliance with the following applicable state and federal regulations. The following California Occupational Safety and Health Administration (Cal-OSHA) standards are applicable for respirable crystalline silica.

California Code of Regulations, 8 CCR 1532.3

SCOPE

The Silica Exposure Control Program applies to all employees who are expected to be exposed to respirable crystalline silica as outlined in Section 4; or through other means which are determined by the department EH&S Specialist or a supervisor designated as a Competent person.

RESPONSIBILITIES

Department/Division Managers are responsible for:

- 1. Ensuring supervisor(s) understand his or her responsibilities for implementation of the Silica Exposure Control Program within each work unit;
- 2. Actively supporting this program within individual units; and
- 3. Ensuring an environment where all employees are required to follow this program.

Supervisors are responsible for:

- I. Inspecting work areas and ensuring procedures are followed in accordance with this program;
- 2. Ensuring that staff is aware of this program, instructed on the details of implementation, and provided with equipment and methods of control (e.g. engineering controls, work practice controls and respirators);
- 3. Erecting barriers and/or signs to restrict access to work areas where respirable crystalline silica exposures exist to minimize the number of employees potentially exposed; and
- 4. Contacting the department EH&S Specialist to request technical assistance and to evaluate health and safety concerns within their department.

Employees are responsible for:

- 1. Complying with this program and any further safety recommendations provided by supervisors regarding the Silica Exposure Control Program; and
- 2. Contacting his or her supervisor to request technical assistance and to evaluate health and safety concerns within his or her division.

SPECIFIED EXPOSURE CONTOL METHODS

For each employee working with materials containing crystalline silica and engaged in a task using the equipment or machines listed below, the department shall fully implement the engineering controls, work practices, and respiratory protection specified.

Stationary Masonry Saws

- 1. Engineering Control Use saws equipped with integrated water delivery system that continuously feeds water to the blade.
- 2. **Respiratory Protection** None required

Drivable Saws

I. Engineering Control

Use saws equipped with integrated water delivery system that continuously feeds water to the blade. Respiratory Protection:

- a. Enclosed Area: Cannot use saw in enclosed areas;
- b. Outside Area: None required.

Handheld Power Saws

I. Engineering Control

Use saws equipped with integrated water delivery system that continuously feeds water to the blade.

Respiratory Protection (less than 4 hours per shift):

- a. Enclosed Area: N95 Dust Mask;
- b. Outside Area: None required.

Respiratory Protection (more than 4 hours per shift):

- a. Enclosed Area: N95 Dust Mask;
- b. Outside Area: N95 Dust Mask.

Handheld and Stand-Mounted Drills

I. Engineering Control

Use drills equipped with commercial shroud or cowling with dust collection system.

Respiratory Protection: None required

Dow Drill Rigs for Concrete

I. Engineering Control

Use drills equipped with commercial shroud or cowling with dust collection system.

Respiratory Protection (less than 4 hours per shift):

- a. Enclosed Area: Can Not Use Drill in Enclosed Areas;
- b. Outside Area: N95 Dust Mask.

Respiratory Protection (more than 4 hours per shift):

- a. Enclosed Area: Can Not Use Drill in Enclosed Areas;
- b. Outside Area: N95 Dust Mask.

Vehicle-Mounted Drill Rigs

I. Engineering Control

Use a 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 – OR – operate from within an enclosed cab and use water for dust suppression on the drill bit.

Respiratory Protection: None required

Jackhammers and Handheld Power Chipping Tools

I. Engineering Control

Feed water continuously to the point of impact – OR – use a commercial shroud or cowling with a dust collection system.

Respiratory Protection (less than 4 hours per shift):

- a. Enclosed Area: N95 Dust Mask;
- b. Outside Area: None Required.

Respiratory Protection (more than 4 hours per shift):

- a. Enclosed Area: N95 Dust Mask;
- b. Outside Area: N95 Dust Mask.

Walk-Behind Milling Machines and Floor Grinders

I. Engineering Control

Water continuously fed to the point of impact – OR – use a commercial shroud or cowling with dust collection system.

Respiratory Protection: None Required

Small Drivable Mill Machines

I. Engineering Control

Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant.

Respiratory Protection: None Required

Large Drivable Milling Machines

I. Engineering Control

Use a machine equipped with exhaust ventilation on the drum enclosure and supplemental water spray designed to suppress dust. - OR - Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant.

Respiratory Protection: None Required

Crushing Machines

I. Engineering Control

Use equipment designed to deliver water spray or mist at crusher and other points where dust is generated -AND – use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote- control station.

Respiratory Protection: None Required

Heavy Equipment (Hoe-Ramming, Rock Ripping, and Demolition)

I. Engineering Control

Operate equipment from within an enclosed cab – AND – When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.

Respiratory Protection: None Required

Heavy Equipment (Grading and Excavating)

3. Engineering Control

Apply water and/or dust suppressants as necessary to minimized dust emissions. – OR – When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.

Respiratory Protection: None Required

Handheld Grinders for Mortar Removal

I. Engineering Control

Commercial shroud or cowling with dust collection system

Respiratory Protection (less than 4 hours per shift):

- a. Enclosed Area: N95 Dust Mask;
- b. Outside Area: N95 Dust Mask.

Respiratory Protection (more than 4 hours per shift):

- a. Enclosed Area: Full Face Air Purifying Respirator;
- b. Outside Area: Full Face Air Purifying Respirator.

Handheld Grinders for Use Other than Mortar Removal

I. Engineering Control

Water continuously fed to the grinding surface –OR – Commercial shroud or cowling with dust collection system.

Respiratory Protection (less than 4 hours per shift):

- a. Enclosed Area: None Required;
- b. Outside Area: None Required.

Respiratory Protection (more than 4 hours per shift):

- a. Enclosed Area: N95 Dust Mask;
- b. Outside Area: None Required.

For potential exposures to respirable crystalline silica or tasks using equipment and machines not identified in the list above, contact the department EH&S Specialist for an exposure assessment to determine the level of exposure and any engineering controls, work practices, or respiratory protection requirements necessary to safely complete the work.

HOUSEKEEPING

Dry sweeping or dry brushing is prohibited where such activity could contribute to employee exposure to respirable crystalline silica.

- I. Use Wet Sweeping;
- 2. Use HEPA-Filtered Vacuuming.

Compressed air shall not be used to clean clothing or surfaces where such activity could contribute to employee exposure to respirable crystalline silica.

Definitions (Attachment A)

Action Level

Means a concentration of airborne respirable crystalline silica of 25 ug /m3, calculated as an 8-hour time weighted average.

Competent person

Means an individual capable of identifying existing and foreseeable respirable crystalline silica hazards in the workplace and who has authorization to take prompt corrective measures to eliminate or minimize them.

Permissible Exposure Limit

Means a concentration of airborne respirable crystalline silica in excess of 50 ug/m3 calculated as an 8-hour time weighted average.

Respirable Crystalline Silica

Means quartz, cristobalite, and/or tridymite contained in airborne particles that are determined to be respirable by methods specified in ISO 7708:1995. Potential for exposure to respirable silica can be identified by visible airborne dust from substances including, but not limited to, concrete, sand, glass and rock.