UTAH LABOR COMMISSION
Utah Occupational Safety and Health Division

Utah Occupational Safety and Health Division (UOSH)

DIRECTIVE NUMBER: 2025-001	EFFECTIVE DATE: August 4, 2025
SUBJECT: Local Emphasis Program for Respirable Crystalline Silica	

ABSTRACT

Purpose: This instruction establishes policies and strategies for a Local Emphasis Program (LEP) designed to identify and reduce or eliminate worker exposures to respirable crystalline silica (RCS) in general industry and construction. This LEP focuses on specific industries expected to have the highest exposures to RCS.

References: Utah Occupational Safety and Health Division (UOSH) Field Operations Manual (UFOM).

OSHA Instruction CPL 02-00-025, *Scheduling System for Programmed Inspections*, January 4, 1995.

OSHA Instruction CPL 02-00-170, *Enforcement Exemptions and Limitations under the Appropriations Act*, July 18, 2024.

Federal Register, 81 FR 16285-16890, §§ 1910, 1926, *Occupational Exposure to Respirable Crystalline Silica; Final Rule*, March 25, 2016.

OSHA Instruction CPL 03-00-023, National Emphasis Program – *Respirable Crystalline Silica*, February 4, 2020.

Distribution: UOSH Staff; Federal Occupational Safety and Health Administration (OSHA) Region VIII Area Office; H-Drive Accessible; Google Drive Accessible; and Internet Accessible.

Expiration: This instruction will remain in effect until canceled or superseded by another instruction or notice.

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I. Goal:

The goal of this LEP is to establish an enforcement initiative to identify and significantly reduce or eliminate worker exposures to RCS in general industry and construction. This goal will be accomplished by a combination of compliance inspections, outreach to employers and compliance assistance. The intent of the LEP is to focus on industries and worksites expected to perform tasks associated with RCS overexposures and focuses on enforcement of two RCS standards, 29 CFR § 1910.1053 and 29 CFR § 1926.1153, which UOSH incorporated by reference on September 21, 2018. Identifying such exposures through this enforcement initiative will be beneficial in helping employers control the health hazards associated with exposure to RCS.

At least two percent of compliance inspections every year will focus on worker exposures to RCS. RSC-related inspections should be conducted at a variety of facilities that reasonably represent the distribution of general industry and construction worksites in Utah.

To ensure abatement and measure the effectiveness of this LEP, follow-up site visits may be necessary, as outlined in Section IX, *Follow-up Inspections*, of this LEP.

II. Scope:

This directive applies to general industry and construction worksites identified, where worker exposures to RCS is likely based on job tasks performed by workers in specific industries.

III. Expiration:

This instruction will remain in effect until canceled or superseded by another instruction or notice.

IV. Background:

Crystalline silica is a common mineral found in many naturally occurring materials and used in many industrial products and at construction sites. Materials including sand, concrete, stone, and mortar contain crystalline silica.

RCS consists of very small silica particles, typically at least 100 times smaller than ordinary sand found on beaches or playgrounds. RCS is generated by high-energy operations like cutting, sawing, grinding, drilling and crushing stone, rock, concrete, brick, block and mortar; and when abrasive blasting with sand. Exposure to RCS can also occur during manufacture of products such as glass, pottery, ceramics, bricks, concrete, countertops and artificial stone. In particular, RCS exposure during the fabrication of artificial stone countertops is an emerging hazard that has been associated with several recent outbreaks of severe accelerated silicosis in young workers in the United States. Additionally, fine industrial sand used in industry can also be a source of RCS exposure, such as in certain foundry operations and, increasingly in recent years, during hydraulic fracturing (fracking).

Inhalation of elevated levels of RCS particles poses a health hazard and can cause multiple

diseases, including silicosis, an incurable lung disease that can lead to disability and death. Exposure to RCS can also cause lung cancer, chronic obstructive pulmonary disease (COPD), and kidney disease. Simply being near sand or other silica-containing materials is not hazardous. The hazard is created when specific activities generate respirable dust that is released into the air. See 81 FR at 16386-87, Table VI-1.

The federal Occupational Safety and Health Administration (OSHA) first adopted permissible exposure limits (PELs) for workplace exposure to RCS in 1971. The initial PELs for RCS, which were incorporated by UOSH, were approximately equivalent to 100 micrograms per cubic meter ($\mu g/m^3$) as an 8-hour time-weighted average (TWA) for general industry and 250 $\mu g/m^3$ for construction. See 81 FR at 16294.

In 2016, OSHA issued two new standards for RCS; one for general industry and maritime (29 CFR § 1910.1053) and one for construction (29 CFR § 1926.1153). The 2016 standards established a new action level of 25 $\mu g/m^3$ and a new PEL of 50 $\mu g/m^3$, both calculated as 8-hour TWAs. The standards also require employers to take other steps to protect workers from RCS hazards. UOSH incorporated the new general industry and construction standards for RCS, by reference, on September 21, 2018,

OSHA estimated the number of workers in the United States currently at risk from RCS exposure to be over two million. Approximately 1,249,250 workers (1,097,000 in construction; 152,300 in general industry and maritime) were estimated to have RCS exposures at or above the new action level of 25 $\mu g/m^3$ and an estimated 948,100 workers (847,700 in construction; and 100,400 in general industry and maritime) had RCS exposures above the new PEL of 50 $\mu g/m^3$. See 81 FR at 16419.

OSHA found that approximately 1,879 of the 13,324, or 14.1 percent, personal air samples collected for RCS between 2008 and 2017 exceeded the applicable PEL. Over the first year after OSHA began enforcing the new PEL for RCS (October 27, 2017, through September 30, 2018), air sampling data shows that 133 of 754, or 17.6 percent, of RCS samples exceeded the new PEL. Data reported by the Centers for Disease Control and Prevention demonstrate that hazardous RCS exposures are continuing to occur in industry, e.g., during hydraulic fracturing of gas and oil wells and among workers who fabricate and install engineered stone countertops (CDC 2015).

Because occupational exposures to RCS continue to pose a significant risk to a large population of workers, and because OSHA's sampling data continue to show a high rate of employee overexposures to RCS, UOSH has determined that this LEP is warranted. This LEP will aid UOSH's efforts to address workplace exposures to RCS in accordance with the new RCS standards.

V. **Action:**

The director or designee shall ensure the procedures outlined in this directive are followed during the effective period of this directive. This directive is not to conflict with inspection priorities as established in the Utah Field Operations Manual (UFOM).

When an inspection is not conducted because the employer has refused entry, a warrant may be sought in accordance with the current procedures for handling such refusals.

VI. Selection and Scheduling of Sites for Inspection:

Small employers are not exempt from programmed planned health inspections under the Appropriations Act. See OSHA Instruction CPL 02-00-170, *Enforcement Exemptions and Limitations under the Appropriations Act*, July 18, 2024.

All establishments, including those with fewer than 11 workers, will be included in this LEP. Inspections conducted under this LEP shall be scheduled as follows:

A. General Industry.

i. Using local government sources, telephone directories, trade manuals and other available sources, UOSH will develop an inspection scheduling list of establishments that meet the requirements for inspection under this LEP. This list will be updated annually, but may also be updated at any time as necessary.

ii. To help in developing the inspection scheduling list, industries were identified in general industry, listed in Table 1 of Appendix A, that have the largest number of workers expected to perform tasks associated with RCS overexposures. Table 2 of Appendix A contains a supplemental table of NAICS codes from general industry where there are smaller numbers of workers expected to perform tasks associated with RCS overexposures. Table 2 should only be used in the generation of the inspection scheduling list if insufficient numbers of establishments were generated from Table 1, or where local knowledge and data supports adding the industry to the inspection scheduling list. There may be other industries not listed in Table 1 and Table 2 of Appendix A that fall under the scope of this LEP.

iii. UOSH may add to the inspection scheduling list individual establishments based on information from appropriate sources [e.g., Utah Labor Commission Industrial Accidents Division (IAD) data, OSHA 300 data, National Institute for Occupational Safety and Health (NIOSH) data, local knowledge of establishments, commercial directories, referrals from the local health department, or previous UOSH inspection history].

UOSH will delete from the current inspection cycle any establishments that are not likely to have RCS hazards or are no longer conducting business.

iv. Establishments which had a comprehensive or focused health inspection that addressed RCS hazards in the previous 24 months will not be added to the inspection scheduling list until the 24 month time period has elapsed if such inspection resulted in one of the following outcomes:

a. No serious citations were issued for violations of the applicable RCS standard.

b. Serious citation(s) were issued for violations of the applicable RCS standard but either:

- A follow-up inspection documented appropriate and effective efforts by the employer to abate the RCS hazards cited (e.g., air sampling conducted, engineering controls installed); or

- UOSH received abatement verification from the employer for all cited serious RCS violations.

v. No more than one RCS LEP inspection will be conducted at each establishment/site every 24 months.

vi. From the inspection scheduling list, a random list will be developed using a random number list (see Appendix C, *Random Number Lists*, of CPL-02-00-025, *Scheduling System for Programmed Inspections*) or an internet-based randomized sequence generator. The first cycle of fifty establishments, starting from the top of the randomized list, will be selected and assigned for inspection. Once a cycle is completed, the establishments selected in that cycle will be removed from the inspection scheduling list and placed on the completed establishment list. After completion of the cycle, the next fifty establishments will be selected from the top of the randomized list and assigned for inspection. If any new establishments are added to the inspection scheduling list, the list will be re-randomized prior to selecting the next fifty establishments. This process will be repeated until the entire scheduling list is completed. A cycle may be generated prior to completion of the previous cycle if there are no available establishments for CSHO assignment.

vii. Due to Utah's dispersed and rural population centers, the director or designee may select other establishments from the inspection scheduling list within a geographical region for an inspection. This will be done to reduce travel time to remote locations and improve efficiency of the inspection process. The director must ensure that all establishments from the scheduling list within UOSH's jurisdiction will be inspected within a reasonable time period.

viii. If any changes in the selection process are necessary, the director or designee must approve the change and document the justification for the desired change. Documentation of all deletions, deferrals, or other modifications to the inspection scheduling list and cycles, as well as the initial inspection scheduling list and cycles, must be maintained for a minimum period of three years after all inspections conducted under this LEP are closed.

ix. Prior to the compliance section supervisor assigning an unprogrammed inspection to the CSHO, the supervisor will check the inspection scheduling list to determine if the establishment assigned for inspection is on the list. If it is on the list, the unprogrammed inspection will be expanded to include the LEP inspection.

x. Some establishments selected for inspection under this LEP may also be selected under other LEPs. Some of the other LEPs that may apply to worksites focused on by this LEP include LEPs for Amputations and the Public Sector. Whenever possible, inspections under this LEP should be carried out concurrently with other programmed inspections.

B. Construction.

i. An inspection targeting system which encompasses random selection of construction sites is not practical. RCS hazards related to construction sites are normally transient and of limited duration. This limits the practicability of targeting the site in advance. The following procedures for construction sites will be used for compliance activities conducted under this LEP.

ii. UOSH will use the 2020 census to create a list of towns/cities, including Census Designated Places, with populations of 1,000 or more people. UOSH believes that population centers of this size are more likely to have active construction sites than smaller towns/cities. This program is designed to be a broad based system that selects geographical areas within the state to establish a presence in the construction industry.

iii. The list of towns/cities will become the inspection pool. Using a random number list (see Appendix C, *Random Number Lists*, of CPL-02-00-025, *Scheduling System for Programmed Inspections*) or an internet-based randomized sequence generator, the towns/cities will be placed on a randomized list. The scheduling cycle for construction inspections is set to 15 towns/cities per cycle. Upon completion of each cycle, the next cycle will be selected for inspection. Once all cycles are completed, a new randomized list of towns/cities will be generated.

iv. All towns/cities within a cycle must be inspected. Geographical areas can be scheduled in any order to make efficient use of resources. After all towns/cities are inspected, they will be marked as completed on the original randomized list. Inspection cycles will be assigned until the original randomized list is completed.

v. Due to Utah's dispersed and rural population centers, the director or designee may select other areas for inspection within a geographical region. This will be done to reduce travel time to remote locations, improve efficiency of the inspection process and ensure thorough coverage of the selected towns/cities. The director must ensure that all counties within UOSH's jurisdiction will be covered within a reasonable time period.

vi. If any changes in the selection process are necessary, the director or designee must approve the change and document the justification for the desired change.

vii. Table 1 of Appendix B lists NAICS within construction for industries that would most likely be affected by this LEP. Accompanying Table 1 in Appendix B is a list of construction operations likely to have RCS exposures and should be used by CSHOs to help determine if such exposures are present at the worksites inspected under this LEP.

viii. Some establishments selected for inspection under this LEP may also be selected under other LEPs. Some of the other LEPs that may apply to worksites focused on by this LEP include the Construction LEP (which focuses on the "Big 4" construction hazards: falls from elevations, caught-in or between, struck-by and electrocution) and the Public Sector LEP. Whenever possible, inspections under this LEP should be carried out concurrently with other programmed inspections.

C. Complaints and Referrals.

Complaint(s) or referrals alleging potential exposures to RCS, whether or not they fall within a specific industry of this LEP, shall be handled in accordance with the general procedures in Chapter 9, *Complaint and Referral Processing*, of the UOSH Field Operations Manual (UFOM) and in accordance with the following:

i. Complaints and referrals alleging potential worker exposures to RCS or involving

workers with symptoms of exposures to RCS (e.g., dry chronic cough, sputum production, shortness of breath, and reduced pulmonary function) shall be treated as having priority and a health inspection shall be conducted.

ii. Document the status and condition of the work operation, as far as they are known, noting any potential serious hazard(s). Where possible, this should include process information (such as type of process or conditions of exposure) that is indicative of the likelihood of exposure to RCS. Documentation of the events leading up to the observation must be maintained in the file.

iii. Note the location of the workplace and the name and address of the employer(s) performing the operation.

iv. Whistleblower protections. Workers requesting inspections, complaining of RCS exposure, or reporting injuries or illnesses may be covered under the whistleblower statute. Inform them of their protections from retaliation and refer them to https://laborcommission.utah.gov/divisions/uosh/compliance/whistleblower-protection/ for more information.

D. Cooperative Programs.

Voluntary Protection Program (VPP) and Safety and Health Achievement Recognition Program (SHARP) sites will be removed from UOSH's inspection scheduling list for the duration of approved participation in the VPP and SHARP. The site will remain off the list until the approved VPP or SHARP participant has withdrawn or has been terminated from its respective program. CSHOs should follow procedures outlined in Chapter 2, *Program Planning*, of the UFOM for further guidance if an on-site consultation is in progress, or if the establishment is a participant in the VPP or SHARP.

VII. Inspection Procedures:

All inspections must be conducted in accordance with the general provisions of the UFOM. Other procedures related to preparing for inspections include the following:

A. General.

i. Inspections under this LEP are to be conducted by CSHOs who have received appropriate training. This training shall cover the hazards of RCS, the contents of this LEP, and current enforcement guidance, including other appropriate RCS-related training. UFOM Chapter 3, *Inspection Procedures*, provides details on inspection planning for CSHOs.

ii. At the opening conference, the CSHO will verify the correct NAICS code for the establishment and verify with the employer whether processes that may produce worker exposures to RCS are conducted at the facility or worksite. If any processes are present that may result in worker exposures to RCS, the CSHO shall proceed with the inspection following the procedures in this LEP and current enforcement guidance for the RCS standards. If no such processes are present, the CSHO shall exit the premises without conducting an inspection. However, if the establishment is included under

another LEP (e.g., Construction, Amputation, or Public Sector) and is not exempt under the Appropriations Act (refer to OSHA Instruction CPL 02-00-170, *Enforcement Exemptions and Limitations under the Appropriations Act*, July 18, 2024), the CSHO shall proceed with an inspection under the other LEP.

iii. All potential hazards observed in the course of any inspection conducted under this LEP shall be appropriately addressed (see subparagraph VII.A.iv. of this LEP for exceptions). Other health hazards that may be observed include: exposure to elevated noise levels from cutting, drilling, or blasting operations; heat stress; and exposure to beryllium dust during abrasive blasting.

iv. If the CSHO observes serious safety violations, the CSHO shall expand the inspection to include those safety violations, subject to any current exemptions or limitations on such activity. For establishments with 10 or fewer employees in a low-hazard industry, OSHA Instruction CPL 02-00-170, *Enforcement Exemptions and Limitations under the Appropriations Act*, July 18, 2024, provides that "OSHA can only expand the scope, of a low-hazard industry inspection, if one of the exceptions to the Appropriations Act limitation applies. For example, OSHA can address when health hazards or imminent danger situations are observed." Several industries under this LEP may be on the exemption list (*Low-Hazard Industries Table*) of the Appropriations Act, such as NAICS 213112 - Support Activities for Oil and Gas Operations, NAICS 2211 - Electric Power Generation, Transmission and Distribution, NAICS 2362 - Nonresidential 13 Building Construction, NAICS 2379 - Other Heavy and Civil Engineering Construction, and many others.

v. The CSHO will inform workers of their right to file a whistleblower complaint if they experience retaliation for providing assistance to UOSH during an inspection, filing a safety and health complaint with UOSH/OSHA, reporting a work-related injury or illness, or complaining about RCS exposure or other workplace hazards to management.

B. General Industry.

i. CSHOs designated as health compliance officers will be assigned to conduct inspections at general industry establishments under this LEP. Once an inspection has been scheduled and assigned, and prior to opening the inspection, the CSHO will search OSHA's website and OIS for the employer's inspection history to ascertain whether the establishment has received a comprehensive or focused health inspection that addressed RCS hazards within the last 24 months. If such inspection has been conducted, the establishment will be placed on the completed inspection list only if said inspection resulted in the following outcomes:

a. No serious citations were issued for violations of the applicable RCS standard.

b. Serious citation(s) were issued for violations of the applicable RCS standard but either:

- A follow-up inspection documented appropriate and effective efforts by the employer to abate the RCS hazards cited (e.g., air sampling conducted, engineering controls installed); or

- UOSH received abatement verification from the employer for all cited serious RCS violations.

ii. The CSHO shall determine whether the identified establishment is scheduled for any other programmed inspection (e.g., Amputation LEP). If the establishment is included on the inspection scheduling list for another LEP, the CSHO must expand the RCS LEP inspection to include the elements of the other LEP. The CSHO will inform his or her supervisor who will ensure the establishment is removed from the inspection scheduling list.

iii. If during an unprogrammed inspection the CSHO discovers processes that may expose workers to RCS, the CSHO will expand the inspection to include the elements of this directive. The CSHO will report the LEP inspection to their supervisor who will add the establishment information to the completed inspection list.

iv. Where workers are likely exposed to RCS hazards, personal air sampling must be conducted as necessary to determine such exposure, even if it is for less than an 8-hour period. However, CSHOs must ascertain (though interviews and document review) when worker exposure to RCS would be the highest and schedule to conduct air sampling during that period. CSHOs shall take with them appropriate calibrated instruments, pre-weighed filters, and other equipment in case such monitoring is necessary. CSHOs should refer to current inspection guidance for the RCS standards, if exposure monitoring is conducted.

C. Construction.

i. Assigned Geographical Areas. When a CSHO is assigned an area for inspection, the supervisor will define the geographical boundaries within the selected town/city prior to conducting the LEP inspection(s). The CSHO will drive the streets of the assigned area searching for active construction sites, including those that do not have observed hazards. CSHOs will not unnecessarily drive the same street under this LEP more than once, unless assigned an unprogrammed inspection that is located on the same street.

ii. Unassigned Geographical Areas. During a CSHO's normal commute to or from an assigned programmed or unprogrammed inspection, the CSHO may conduct an inspection under this LEP if he or she observes an active construction site where employee exposure to RCS is likely to exist.

iii. All work sites where RCS hazards could occur, or where such hazards are observed by CSHOs, will be selected for compliance activity under this LEP. When the CSHO finds an active construction site, the CSHO will enter the site to determine if workers are exposed, or are likely to be exposed, to RCS. To help determine if RCS exposures are present, CSHOs should use the list in Appendix B of this LEP for construction operations likely to have such exposures. Based on observations made by the CSHO, either a compliance inspection will be conducted or compliance assistance will be provided to the employer(s).

iv. If the CSHO does not observe RCS hazards at the worksite, the CSHO will not open an inspection under this LEP; however, the CSHO must establish if the employer is

covered under any other programmed inspection (e.g., Construction LEP) and if appropriate, conduct an inspection under that LEP. Prior to opening a safety programmed inspection, the CSHO must determine if the establishment is exempt from programmed safety inspections under the Appropriations Act (see subparagraph VII.A. iv. of this LEP). If there are no observed hazards, the CSHO will provide compliance assistance by providing RCS and other applicable safety and health information to the employer.

v. If the CSHO observes RCS hazards, the CSHO will conduct a programmed planned inspection in accordance with the UFOM. The CSHO must have access to appropriate calibrated instruments, pre-weighed filters, and other equipment in order for personal air sampling to be conducted as necessary to determine worker exposure to RCS hazards, even if it is for less than an 8-hour period. Due to the nature of construction activity, an expedited opening conference shall be conducted by limiting activities to presenting credentials, identifying the employer and employee representative(s) and explaining the nature, scope and purpose of the inspection. The employer shall be advised that, because of the abbreviated nature of the opening conference, there will be a more extensive discussion at the closing conference. The walk-around inspection will then begin without further delay.

During the walk-around inspection, health hazards identified shall be addressed with the individual employer or employer representative of the exposed employees. A subcontractor should not be included in the inspection unless a serious violation has been observed by the CSHO.

VIII. CSHO Protection:

A. CSHOs shall protect themselves against all hazards during an inspection.

B. All necessary personal protective equipment (PPE) must be used. The Compliance Field Operations Manager must ensure that appropriate PPE is available for use and the CSHO has been trained in its use and limitations.

C. CSHOs must evaluate the potential for exposure to RCS hazards by identifying work areas, processes or tasks that may be potentially hazardous that would require respiratory protection prior to entering.

D. CSHOs must wear appropriate respiratory protection when and where required, and must select, care for and maintain respirators in accordance with training and UOSH's respiratory protection program (RPP). An example of where such use may be required is where a task listed on Table 1 of the construction standard is being conducted by an employer and required controls have not been fully and properly implemented.

E. CSHOs must notify their supervisor or the RPP administrator if a respirator no longer fits properly and request a replacement.

IX. Follow-up Inspections:

If an employer covered by the general industry standard has not reduced RCS exposures to or below the PEL, or if an employer covered by the construction standard has not either fully and properly implemented required engineering controls, work practices and respiratory protection for a task listed on Table 1 of that standard, or reduced RCS exposures to or below the PEL, a follow-up inspection shall be conducted in accordance with UFOM, Chapter 3, Section VIII.A, *Follow-up and Monitoring Inspections*, based on available resources. Follow-up inspections should also be conducted if there are any unabated violations of other provisions of the standard.

For situations where follow-up inspections cannot be performed (e.g., some construction sites, fracking operations, or temporary abrasive blasting operations), UOSH should, when possible, request the employer provide written updates documenting the progress of abatement efforts.

A follow-up inspection is not required when UOSH has specific knowledge and documentation indicating that there are no workers exposed to RCS.

X. OSHA Information System (OIS) Coding Instructions:

A. All enforcement activities (programmed inspections, complaints, and referrals) and compliance assistance interventions conducted under this LEP shall be coded as "RCS-LEP" in the Inspection Emphasis Programs field under State Emphasis Program.

B. In the Inspection Emphasis Programs field of the OIS, select all National Emphasis Programs/Local Emphasis Programs (NEP/LEP) OIS codes applicable to the inspection.

C. The majority of inspections conducted under this LEP are to be coded under the Inspection Category as a "Health" inspection.

D. Whenever a consultation request/visit is made related to this LEP, the LEP code "RCS-LEP" shall be recorded in the appropriate field on the Consultation request/visit forms.

XI. Outreach and Education:

The director or designee will assure that Consultation and Education Services Section (Consultation) staff are familiar with this directive and actively promote the LEP when conducting outreach sessions and meetings. RCS hazards covered by this LEP will be pointed out and discussed during outreach sessions and meetings. Handouts and publications that address these hazards, which are already developed and available, will be provided at outreach sessions and meetings. A copy of this LEP will be provided to interested parties upon request.

In addition, Consultation is encouraged to develop its own strategic approaches for addressing the hazards associated with occupational exposure to RCS and coding applicable activities in OIS. See coding instructions for the OIS in paragraph D of Section X, *OSHA Information System (OIS) Coding Instructions*.

A. Suggested Outreach.

Products and activities may include the following:

i. Letters and news releases announcing implementation of the RCS LEP. Include information about no-cost Consultation services available to small businesses.

ii. Seminars on RCS-related topics, tailored for specific audiences, such as employers, employee groups, local trade unions, apprentice programs (e.g., masons, bricklayers), and equipment manufacturers. Local occupational medical staff can be invited to participate.

iii. Working with existing partnerships, including disseminating information on the LEP and RCS standard, and sharing successes and technical information on effective means to control and reduce or eliminate worker exposure to RCS.

iv. Forming new working relationships, including partnerships and more informal working relationships with organizations that can help disseminate information to small businesses and other employers.

v. Working with Consultation programs, local Small Business Development Centers (SBDC), and other organizations to reach small businesses.

vi. For more outreach ideas, see the *Menu of Possible Silica Outreach Activities for the Silica Standards* in the Silica Outreach Toolbox on the Compliance Assistance webpage on the OSHA intranet.

B. Audiences for Outreach.

i. Local employers engaged in RCS-related work, especially small employers (e.g., chimney repairers, stone countertop suppliers and installers). See also industries in Table 1 of Appendix A and B.

ii. Local employer associations (e.g., a local chamber of commerce).

iii. Insurance companies.

iv. Equipment manufacturers.

v. A regional Service, Transmission, Exploration & Production Safety (STEPS) network (see also https://www.nationalstepsnetwork.com/regional-chapters).

vi. Local trade unions and apprenticeship programs (e.g., masons, bricklayers) and other worker groups.

vii. Independent contractors and the self-employed.

viii. Local hospitals, occupational health clinics, and other health organizations (e.g., state lung associations).

ix. Local professional associations (e.g., local safety councils).

x. Temporary employment agencies providing employees to affected employers (e.g.,

construction day laborers).

xi. Local building permitting authorities.

xii. Local newspapers, TV stations, trade magazines (these can help inform the public and hard-to-reach employers).

xiii. Local government (e.g., health departments and departments of transportation).

xiv. Local suppliers of materials or services, tool rental companies.

C. Online Materials.

OSHA resources may be of assistance in this outreach effort. A variety of online resources can be accessed through OSHA's public webpage, including the OSHA Crystalline Silica Safety and Health Topics Page (https://www.osha.gov/dsg/topics/silicacrystalline/). Internal resources for RCS are also available on the Compliance Assistance webpage on the OSHA intranet.

XII. Program Review:

To assess the effectiveness of this LEP, UOSH will review the LEP on an annual basis, at least 6 months following the federal fiscal year to which the LEP pertains. The program review shall, at a minimum, address the LEP goal (see Section I) in accordance with established UOSH procedures. Data on effectiveness may include:

A. The number of employees covered.

B. The number of workers removed from hazards.

C. Reductions in worker exposures.

D. Abatement measures implemented.

E. Number of violations related to specific RCS-related hazards.

F. Total number of violations of the RCS standards where such has become a final order of the Utah Labor Commission.

APPENDIX A: General Industry NAICS for the RCS LEP.

Table 1 in this appendix comprises the general industry NAICS codes from Table VII-5 in OSHA's RCS final rule that have the highest numbers of workers with exposures above 100 μg/m³ as a TWA (see 81 FR at 16427-32).[1] UOSH will prepare the inspection scheduling list from Table 1. Table 2 will only be used if an insufficient number of establishments or inspections are generated using the industries listed in Table 1, or where local knowledge or data is available to support adding the industry to UOSH's inspection scheduling list.

Industries in Table 2 are not to be used for RCS LEP inspection scheduling lists, unless an insufficient number of establishments or inspections are generated using the industries listed in Table 1 (see above paragraph). The industries listed in Table 2 employ less than two percent of all workers exposed to RCS. Included in Table 2 are also industries identified from OSHA inspection history (between October 2014 and April 2017) that had RCS overexposures, but are not among the industries included in Table VII-5 in OSHA's RCS final rule.

Note that employee overexposures to RCS may occur in industries not listed in this appendix. Similarly, it should not be assumed that employee overexposure to RCS occurs in all establishments within the industries listed in the tables below.

[1] Table VII-5: Numbers of Workers Exposed to Silica [by Affected Industry and Exposure Level (μg/m³)], contains NAICS codes for each affected industry in construction and general industry/maritime (see 81 FR at 16427-32). It presents the estimated number of workers in these industries that are currently at risk from RCS exposure above 25 μg/m³, 50 μg/m³, 100 μg/m³, and 250 μg/m³, as 8-hour TWAs. Table VII-5 used 2012 NAICS codes (see 81 FR at 16427-32). These industries have identical codes in the 2017 NAICS, so this Appendix A uses the 2017 NAICS codes.

Table 1. Specified Industries in General Industry by 2017 NAICS

NAICS Code	Industry
213112	Support Activities for Oil and Gas Operations[1]
221100	Electric Power Generation, Transmission and Distribution[1] *221111* Hydroelectric Power Generation *221112* Fossil Fuel Electric Power Generation *221113* Nuclear Electric Power Generation *221114* Solar Electric Power Generation *221115* Wind Electric Power Generation *221116* Geothermal Electric Power Generation *221117* Biomass Electric Power Generation *221118* Other Electric Power Generation *221121* Electric Bulk Power Transmission and Control *221122* Electric Power Distribution
324122	Asphalt Shingle and Coating Materials Manufacturing
325510	Paint and Coating Manufacturing
327110	Pottery, Ceramics, and Plumbing Fixture Manufacturing
327120	Clay Building Material and Refractories Manufacturing
327212	Other Pressed and Blown Glass and Glassware Manufacturing
327213	Glass Container Manufacturing
327320	Ready-Mix Concrete Manufacturing
327331	Concrete Block and Brick Manufacturing
327332	Concrete Pipe Manufacturing
327390	Other Concrete Product Manufacturing
327991	Cut Stone and Stone Product Manufacturing
327992	Ground or Treated Mineral and Earth Manufacturing
327993	Mineral Wool Manufacturing
327999	All Other Miscellaneous Nonmetallic Mineral Product Manufacturing
331511	Iron Foundries
331512	Steel Investment Foundries
331513	Steel Foundries (except Investment)
331524	Aluminum Foundries (except Die-Casting)
331529	Other Nonferrous Metal Foundries (except Die-Casting)
332710	Machine Shops
332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers
336611	Ship Building and Repairing[1]
336612	Boat Building[1]
339114	Dental Equipment and Supplies Manufacturing
339910	Jewelry and Silverware Manufacturing
339950	Sign Manufacturing
423840	Industrial Supplies Merchant Wholesalers
482110	Rail Transportation *482111* Line-Haul Railroads *482112* Short Line Railroads
561730	Landscaping Services[1]
999200	State Governments[1]
999300	Local Governments[1]

[1] Industry may perform construction-like activities in-house and/or at off-site locations.

Table 2. Supplemental Industries in General Industry by 2017 NAICS

NAICS Code	Industry
213111	Drilling Oil and Gas Wells[1]
324121	Asphalt Paving Mixture and Block Manufacturing[1,2]
325194	Cyclic Crude, Intermediate, and Gum and Wood Chemical Manufacturing[1]
326291	Rubber Product for Manufacturing Mechanical Use[1]
327211	Flat Glass Manufacturing[2]
327420	Gypsum Product Manufacturing[1]
331110	Iron and Steel Mills and Ferroalloy Manufacturing[2]
331210	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel[2]
331221	Rolled Steel Shape Manufacturing[2]
331222	Steel Wire Drawing[2]
331314	Secondary Smelting and Alloying of Aluminum[2]
331420	Copper Rolling, Drawing, Extruding, and Alloying[2]
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)[2]
331523	Nonferrous Metal Die-Casting Foundries[1]
332111	Iron and Steel Forging[2]
332112	Nonferrous Forging[2]
332117	Powder Metallurgy Part Manufacturing[2]
332119	Metal Crown, Closure, and Other Metal Stamping (except Automotive)[2]
332215	Metal Kitchen Cookware, Utensil, Cutlery, and Flatware (except Precious) Manufacturing[2]
332216	Saw Blade and Hand tool Manufacturing[2]
332323	Ornamental and Architectural Metal Work Manufacturing[2]
332439	Other Metal Container Manufacturing[2]
332312	Fabricated Structural Metal Manufacturing[1]
332510	Hardware Manufacturing[2]
332613	Spring Manufacturing[2]
332618	Other Fabricated Wire Product Manufacturing[2]
332813	Electroplating, Plating, Polishing, Anodizing, and Coloring[1]
332911	Industrial Valve Manufacturing[2]
332912	Fluid Power Valve and Hose Fitting Manufacturing[2]
332913	Plumbing Fixture Fitting and Trim Manufacturing[2]
332919	Other Metal Valve and Pipe Fitting Manufacturing[2]
332991	Ball and Roller Bearing Manufacturing[2]
332996	Fabricated Pipe and Pipe Fitting Manufacturing[2]
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing[1,2]
333318	Other Commercial and Service Industry Machinery Manufacturing[2]
333413	Industrial and Commercial Fan and Blower and Air Purification Equipment Manufacturing[2]
333414	Heating Equipment (except Warm Air Furnaces) Manufacturing[2]
333511	Industrial Mold Manufacturing[2]
333514	Special Die and Tool, Die Set, Jig, and Fixture Manufacturing[2]
333515	Cutting Tool and Machine Tool Accessory Manufacturing[2]
333517	Machine Tool Manufacturing[2]
333519	Rolling Mill and Other Metalworking Machinery Manufacturing[2]
333612	Speed Changer, Industrial High-Speed Drive, and Gear Manufacturing[2]
333613	Mechanical Power Transmission Equipment Manufacturing[2]
333911	Pump and Pumping Equipment Manufacturing[2]

333912	Air and Gas Compressor Manufacturing[2]
333991	Power-Driven Hand Tool Manufacturing[2]
333992	Welding and Soldering Equipment Manufacturing[2]
333993	Packaging Machinery Manufacturing[2]
333994	Industrial Process Furnace and Oven Manufacturing[1,2]
333995	Fluid Power Cylinder and Actuator Manufacturing[2]
333996	Fluid Power Pump and Motor Manufacturing[2]
333997	Scale and Balance Manufacturing[2]
333999	All Other Miscellaneous General Purpose Machinery Manufacturing[1,2]
334519	Other Measuring and Controlling Device Manufacturing[2]
335210	Small Electrical Appliance Manufacturing[2]
335221	Household Cooking Appliance Manufacturing[2]
335222	Household Refrigerator and Home Freezer Manufacturing[2]
335224	Household Laundry Equipment Manufacturing[2]
335228	Other Major Household Appliance Manufacturing[2]
336111	Automobile Manufacturing[2]
336112	Light Truck and Utility Vehicle Manufacturing[2]
336120	Heavy Duty Truck Manufacturing[2]
336211	Motor Vehicle Body Manufacturing[2]
336212	Truck Trailer Manufacturing[1,2]
336213	Motor Home Manufacturing[2]
336310	Motor Vehicle Gasoline Engine and Engine Parts Manufacturing[2]
336320	Motor Vehicle Electrical and Electronic Equipment Manufacturing[2]
336330	Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing[2]
336340	Motor Vehicle Brake System Manufacturing[1,2]
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing[2]
336370	Motor Vehicle Metal Stamping[2]
336390	Other Motor Vehicle Parts Manufacturing[2]
336992	Military Armored Vehicle, Tank, and Tank Component Manufacturing[2]
337110	Wood Kitchen Cabinet and Countertop Manufacturing[1,2]
337127	Institutional Furniture Manufacturing[1]
337215	Showcase, Partition, Shelving, and Locker Manufacturing[2]
339116	Dental Laboratories[1,2]
423320	Brick, Stone, and Related Construction Material Merchant Wholesalers[1]
424950	Paint, Varnish, and Supplies Merchant Wholesalers[1]
444110	Home Centers[1,2]
541310	Architectural Services[1]
541410	Interior Design Services[1]
561320	Temporary Help Services[1]
621210	Offices of Dentists[2]
811121	Automotive Body, Paint, and Interior Repair and Maintenance[1]
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance[1]

[1] In OSHA inspection history (overexposures to silica at former PELs).
[2] Industry from Table VII-5 of the Final Rule that is not included in Appendix A, Table 1.

APPENDIX B: Construction NAICS and RCS Construction Activities.

Table 1 in this appendix contains a list of all affected construction NAICS codes from Table VII-5 in the RCS final rule (see 81 FR at 16427). Accompanying Table 1 is a list of construction operations likely to have RCS exposures, provided as an aid for CSHOs. CSHOs must use the information in this appendix for all construction-related inspection activities (programmed and unprogrammed) to help determine if workers may be exposed to RCS hazards on construction worksites.

Note that employee overexposures to RCS may occur in industries not listed in this appendix. Similarly, it should not be assumed that employee overexposure to RCS occurs in all establishments within the industries listed in the tables below.

Table 1. Specified Industries in Construction by 2017 NAICS

NAICS Code	Industry
236100	Residential Building Construction *236115 New Single-Family Housing Construction (except For-Sale Builders)* *236116 New Multifamily Housing Construction (except For-Sale Builders)* *236117 New Housing For-Sale Builders* *236118 Residential Remodelers*
236200	Nonresidential Building Construction *236210 Industrial Building Construction* *236220 Commercial and Institutional Building Construction*
237100	Utility System Construction *237110 Water and Sewer Line and Related Structures Construction* *237120 Oil and Gas Pipeline and Related Structures Construction* *237130 Power and Communication Line and Related Structures Construction*
237200	Land Subdivision *237210 Land Subdivision*
237300	Highway, Street, and Bridge Construction *237310 Highway, Street, and Bridge Construction*
237900	Other Heavy and Civil Engineering Construction *237990 Other Heavy and Civil Engineering Construction*
238100	Foundation, Structure, and Building Exterior Contractors *238110 Poured Concrete Foundation and Structure Contractors* *238120 Structural Steel and Precast Concrete Contractors* *238130 Framing Contractors* *238140 Masonry Contractors* *238150 Glass and Glazing Contractors* *238160 Roofing Contractors* *238170 Siding Contractors* *238190 Other Foundation, Structure, and Building Exterior Contractors*
238200	Building Equipment Contractors *238210 Electrical Contractors and Other Wiring Installation Contractors* *238220 Plumbing, Heating, and Air-Conditioning Contractors* *238290 Other Building Equipment Contractors*
238300	Building Finishing Contractors *238310 Drywall and Insulation Contractors* *238320 Painting and Wall Covering Contractors* *238330 Flooring Contractors* *238340 Tile and Terrazzo Contractors* *238350 Finish Carpentry Contractors* *238390 Other Building Finishing Contractors*
238900	Other Specialty Trade Contractors *238910 Site Preparation Contractors* *238990 All Other Specialty Trade Contractors*

Construction Activities that May Involve RCS Exposure

The following list is provided to help UOSH with focusing on construction worksites by listing operations likely to have exposures to RCS, as described in the *Occupational Exposure to Respirable Crystalline Silica* preamble, pages 16406 and 16459:

- Abrasive blasting
- Drywall finishing
- Earth drilling
- Heavy equipment operations (excavating, grading, abrading, or fracturing RCS-containing materials, or demolishing concrete or masonry structures)
- Concrete and masonry hole drilling using handheld or stand-mounted drills
- Jackhammering and powered, handheld, chipping of concrete and masonry
- Masonry, concrete, or fiber-cement board cutting using portable saws, walk-behind saws, drivable or ride-on saws, rig-mounts core saws and drills, or stationary saws
- Milling of asphalt using portable or mobile machines, such as walk-behind milling machines, floor grinders, or drivable milling machines
- Rock and concrete drilling using vehicle-mounted drilling rigs and dowel drilling rigs
- Mobile concrete crushing machines
- Tuckpointing and grinding using handheld grinders for mortar removal and other than mortar removal

(Reference: 81 FR at 16406, 16459)

See also the specific equipment and tasks in the left-hand column of 29 CFR § 1926.1153(c)(1), Table 1, and the OSHA Small Entity Compliance Guide for the Respirable Crystalline Silica Standard for Construction, available at https://www.osha.gov/Publications/OSHA3902.pdf. For videos of several of these tasks, see the following:

- Stationary Masonry Saws, https://www.youtube.com/watch?v=Eu0s4-ZLw9I&feature=youtu.be
- Handheld Power Saws, https://www.youtube.com/watch?v=pfYI31pF4Ng&feature=youtu.be
- Handheld and Stand-Mounted Drills, https://www.youtube.com/watch?v=Yzo-sZ_PSic&feature=youtu.be
- Jackhammers or Handheld Powered Chipping Tools, https://www.youtube.com/watch?v=e2uRD2dJ8vs&feature=youtu.be
- Handheld Grinders for Mortar Removal (Tuckpointing), https://www.youtube.com/watch?v=D8Khz9vTdAk&feature=youtu.be
- Handheld Grinders for Uses Other than Mortar Removal, https://www.youtube.com/watch?v=X520VC-M3BI&feature=youtu.be