Respirable Crystalline Silica Standard

1. PURPOSE

The purpose of this standard is to protect employees from crystalline silica ("silica") and safeguard against exposure using appropriate control measures.

2. SCOPE

This Standard is applicable to employees of Expand Energy (EXE), its affiliates or subsidiaries performing work on EXE properties or on the company's behalf.

Contractors **shall** have their own Standards that meet or exceed regulatory requirements.

3. DEFINITIONS

Action Level – A calculated 8-hour time weighted average (TWA) concentration of airborne respirable crystalline silica of 25 µg/m3 which triggers requirements of the OSHA silica standard.

Employee Exposure – Exposure to airborne respirable crystalline silica that would occur if the employee were not using a respirator.

Exposure Assessment – An evaluation of potential employee exposure to silica at or above the action level.

Exposure Control Plan – A documented plan that addresses the protection of persons who perform work activities within a Regulated Area. Following the establishment of a Regulated Area, an Exposure Control Plan describes exposure monitoring, controls, and assessments.

Objective Data – Information, such as air monitoring data from industry-wide surveys or calculations based on the composition or chemical and physical properties of a substance, demonstrating employee exposure to respirable crystalline silica associated with a particular product, material, process, operation, or activity.

Permissible Exposure Limit (PEL) – The maximum amount or concentration of a chemical or substance that an employee may be exposed to, calculated as an 8-hour time weighted average, according to OSHA. The current PEL of respirable crystalline silica is 50 µg/m3.

Regulated Area – An area, defined by the employer, where an employee's exposure to airborne concentrations of respirable crystalline silica exceeds, or can reasonably be expected to exceed, the PEL.

Respirable Crystalline Silica – Airborne particles that contain quartz, cristobalite, and/or tridymite and whose measurement meets the characteristics for respirable-particle-size-selective samplers specified in the OSHA Standard.

Shall – Denotes a minimum requirement to conform to the Standard. To aid the reader, "shall" requirements are identified in bold. Any deviation from a minimum requirement must be approved via the Standard Exception Form.

Should – Denotes a recommendation, or that which is advised, but not required to conform to the Standard.

Silica – The common name for silicon dioxide, a compound formed from silicon and oxygen. Silica is present in many construction materials, including stone, cement, mortar, concrete, asphalt, drywall, and paving stones. Respirable silica (silica dust) is commonly generated when mining, processing, cutting, and crushing stone, rock, concrete, brick, gravel, and sand.

Time Weighted Average (TWA) – Average exposure within the workplace to any hazardous contaminate or agent using the baseline of an 8 hours per day or 40 hours per week work schedule.

Workplace – An establishment, location, job site or project, that contains one or more work areas.

4. ROLES & RESPONSIBILITIES

4.1. SUPERVISORS

- Comply with this standard and ensure implementation within their area of responsibility.
- Identify job tasks that may reasonably cause exposure to silica and ensure required compliance activities are completed.

4.2. EMPLOYEES

- Comply with this standard and apply its requirements to job tasks with exposures to silica.

4.3. HSER

- Support Supervisors and Employees with the implementation of this standard.
- Manage the exposure assessment process.

5. REQUIREMENTS

5.1 SILICA HAZARDS

Crystalline silica is a common component of sand, stone, rock, concrete, brick, block and mortar and other building materials. The health hazards of silica come from breathing in the dust. If silica becomes airborne through industrial activities, exposures to fine crystalline silica dust can lead to respiratory issues and disease (e.g., silicosis).

Operations which dump, compress, break, grind or otherwise cause the components to create dust should be evaluated for potential silica exposure.

5.2 Exposure Assessment

An exposure assessment **shall** be prepared for job functions and/or workplaces to determine which employees are reasonably expected to have exposure to silica at or above the action level. Initial exposure monitoring for silica **shall** be conducted as necessary to assess the 8-hour time weighted average (TWA) exposure.

Additional exposure assessments **shall** be conducted for all job functions and/or workplaces where initial exposure monitoring indicates employee exposure is at or exceeds the action level or above the PEL as required by OSHA.

The exposure assessment **shall** be reevaluated by HSER and operations leadership when silica exposures are anticipated to change due to alterations in operating areas, production methods, or work practices. Objective data may be utilized in lieu of specific exposure monitoring if appropriate.

Monitoring results **shall** be reported to the employees monitored within 15 working days from the completion of the exposure assessment. Whenever an exposure assessment indicates that employee exposure is above the PEL, the written notification **shall** include the corrective action(s) being taken to reduce employee exposure to or below the PEL.

5.3 Exposure Control Plan

Exposure assessment results may cause the designation of Regulated Areas. The written exposure control plan **shall** be developed and implemented for the workplaces or job tasks that are within a Regulated Area. The effectiveness of the exposure control plan **shall** be evaluated and updated annually or as changes arise. The plan **shall** include:

- Description of the workplaces or job tasks that involve exposure to silica
- Preparation for work involving respirable crystalline silica
- Worker exposure monitoring requirements
- Exposure reduction work practices and procedures (such as capping unused fill ports, minimizing sand fall distances during transfer operations, installing shrouds around chutes, using enclosed cabs/booths, etc.)
- Signage and regulated area designation
- Respiratory protection requirements
- Decontamination/hygiene requirements

- Inspection process to ensure plan implementation

5.4 CONTROLS

5.4.1 ENGINEERING CONTROLS

Engineering controls **shall** be used to limit worker exposure below the PEL as feasible. In the event that engineering controls become non-operational during the job task, work schedules **shall** be amended and/or respiratory protection **shall** be required to ensure employee exposures remain below the PEL.

5.4.2 ADMINISTRATIVE CONTROLS

Administrative controls, such as specific work practices and housekeeping measures, **shall** be implemented for job tasks or and/or locations that exceed or have the potential to exceed the respirable crystalline silica PEL. Administrative controls may include, but not limited to:

- Rescheduling of work to avoid activities which can cause exposure to silica dust
- Relocating workers from away from dusty areas
- Working within an enclosed cab
- Housekeeping measures such as using HEPA-filtered vacuuming or wet sweeping
- Reduce spillage
- Posting of signs of Regulated Areas

5.4.3 PERSONAL PROTECTIVE EQUIPMENT

For job tasks or workplaces where engineering and/or administrative controls are not adequate to reduce exposures below the PEL, respiratory protection **shall** be required. Respiratory protection equipment **shall** be managed by HSER.

Personnel using respiratory protection **shall** be trained, medically evaluated, and fit tested for the specific type and size of respirator utilized. Refer to the Expand Respiratory Protection Standard for additional details and requirements.

5.5 MEDICAL SURVEILLANCE

Employees who are or may be exposed to silica above the Action Level for 30 or more days per year **shall** be included in a medical surveillance program. Medical services **shall** be performed by a Physician or Other Licensed Health Care Professional (PLHCP). All required written medical reports and required information provided to the PLHCP **shall** be maintained in confidential employee files.

6. TRAINING

Prior to working on jobs or tasks with known or potential silica exposures, all employees **shall** complete training that includes:

- Potential health hazards of respirable crystalline silica exposure
- Importance of personal hygiene and safe work practices in reducing crystalline silica exposure
- Job tasks with potential exposure to crystalline silica as defined by the exposure assessment
- Specific measures, such as engineering controls, work practices, and personal protective equipment to be used to minimize silica exposure
- Signage marking work areas that are considered regulated areas containing crystalline silica
- Purpose and description of medical surveillance program as applicable

7. AUDIT REQUIREMENTS

Audits **shall** be periodically conducted by HSER in order to confirm compliance with this Standard.

8. STANDARD EXCEPTIONS

Requirements outlined in this Standard **shall** be followed, unless a Standard Exception is filed on behalf of, and with the approval of the Operations Manager. The Company's Standard Exception Form is to be utilized to properly document any exceptions.

9. REFERENCES

- Expand Respiratory Protection Standard
- Expand Hazard Communication Standard
- 29 CFR 1910.1053 and 1926.1153, Respirable crystalline silica standards for general industry and construction Industry
- 30 CFR Part 60, Respirable crystalline silica standards for mining
- HSER-SAF-EXE-PLN-015 Exposure Control Plan for Respirable Crystalline Silica

10. DOCUMENT CONTROL TABLE

Title: Respirable Crystalline Silica Standard	**Document Number:** HSER-EXE-STD-021
Next Review Date: 6/30/28	
Originating Department: HSER	

Version History				
Version	**Issue Date**	**Description**	**Author(s)**	**Approved By**
1.0	06/30/2025	Developed new standard for EXE.	Katie Rhoads	OGB