



Rethinking safety through
INCLUSION
+
WELLBEING

HEALTH + SAFETY

PRIMARY STANDARD

23/03/2026

RESPIRABLE CRYSTALLINE SILICA (RCS)

1.0 PURPOSE AND SCOPE

The primary standard details the FSR controls and requirements to manage and mitigate RCS generation and exposure in the workplace.

This primary standard applies when identifying and planning tasks that involve the processing of a CSS or any other activity involving the potential generation of airborne RCS that could result in an exposure to the workforce.

1.1 FSR CONTROLS

- Identify hazardous dust and fibre risks during Safety in Design, constructability assessments, and work planning, and implement controls to eliminate or engineer out those risks.
- An Occupational Health and Hygiene Management Plan must be in place and endorsed by a qualified occupational hygienist.
- Before commencing Demolition Work or alterations / modifications to existing structures, a third-party hazardous materials survey must be undertaken.
- Compressed air, blowers or dry sweeping must not be used for cleaning surfaces where hazardous dust may be present.
- Use HEPA-filtered vacuums rated for the dust being collected (e.g. M-class minimum for respirable crystalline silica).
- Implement engineering controls where hazardous dust may be generated, such as on-tool extraction, water suppression, or local exhaust ventilation.
- Respiratory Protective Equipment (RPE) used to prevent inhalation of hazardous dust and fibres must be fit-tested, except for loose-fitting Powered Air Purifying Respirator (PAPR) units.
- Respiratory Protective Equipment (RPE) to prevent inhalation of hazardous dust and fibres must be suitable for the task, maintained and inspected before each use for signs of damage or deterioration.
- Conduct exposure monitoring and Health Surveillance in accordance with the Health Risk Assessment (HRA) to confirm the effectiveness of implemented controls.
- Decontaminate tools, equipment, and clothing exposed to hazardous dust or fibres in line with the applicable Exposure Control Plan or Safe Work Method Statement.
- Dispose of hazardous waste, including asbestos, at licensed facilities authorised to receive that waste.



1.2 CONTEXT

Crystalline silica is a naturally occurring mineral that is used in construction materials including bricks, concrete, sand, mortar, natural stone (granite, sandstone etc) and engineered stone. Its most common form is Quartz with other variants including Cristobalite, Tridymite and Tripoli. Any material that contains at least 1% crystalline silica by weight/weight concentration is classified as a Crystalline Silica Substance (CSS).

Crystalline Silica Processes (CSP) can generate hazardous microscopic dust called respirable crystalline silica (RCS). These Crystalline Silica Processes commonly include the use of powered tools or mechanical plant to carry out activities involving the crushing, cutting, drilling, grinding, sawing, demolition, sanding or polishing of natural stone or man-made products that contain CSS. Abrasive blasting, demolition works, excavation, earthmoving operations, and tunnelling into CSS can all generate silica dust.

Other tasks like dry sweeping or using compressed air on concrete dust, can disturb settled dust causing particles to become airborne in the workers breathing zone, increasing the likelihood of exposure.

When breathed in, RCS can potentially cause occupational diseases including chronic obstructive pulmonary disease, kidney disease, silicosis, and lung cancer.

1.3 PROJECT IMPLEMENTATION SUMMARY

Step 1: Hazard Identification and Risk Assessment

Review the requirements of SR Health Surveillance and Exposure Hygiene Monitoring

- Develop a Project Risk Assessment (PRA). Identify if any crystalline silica processes will be performed during the project
- Develop a Project Occupational Health and Hygiene Management Plan (OHMMP) and health risk assessment in line with the Project Risk Assessment outcome.
 - Level 1 – Baseline Qualitative HRA.
 - Level 2 – Qualitative Walkthrough Assessment.
 - Level 3 – Quantitative HRA (ongoing process for risks deemed high or extreme).

Identify if CSP is likely to be High Risk Crystalline Silica Work (HRCSW)

Use the **LOR RCS HAZID & ECP Tool** to review:

- CSS and form
- CSP to be undertaken
- Dose Time Weighted Average (TWA) Concentration will it reasonably likely exceed the 50% action level which is determined by:
 - Likely duration & Frequency of the exposure(s)
 - Likely concentration / magnitude of the exposure
- Any previous air monitoring data and health monitoring results at the workplace
- Any previous incidents, illness or diseases in connection with exposure to CSS at the workplace

Step 2: Management and Control

If HRCSW is Confirmed the CSP MUST be controlled:

- OPTION 1: Use the **LOR RCS HAZID & ECP Tool** to Develop Silica Risk Exposure Control Plans (ECPs) that encompass a risk assessment for tasks where a HRCSW has been identified
- OPTION 2: For HRCSW complete SWMS that satisfies the Silica Risk Control Plan (model states) or Hazard control statement (Victoria) requirements
- Consult with stakeholders including workers and supervision, review, implement and maintain controls in field.
- Update the Project Risk Assessment (PRA) with an overview of health hazards and minimum controls required for the project for the tasks being completed.
- Integrate monitoring programs into the activity schedule for planned works and record additional requirements such as development of targeted exposure control plans within the Project Risk Assessment as necessary.
- Embed OHH hazard review in the 30/60/90-day risk review process.
- Ensure health and monitoring requirements are established and tracked (e.g. respirator fit testing, health monitoring/surveillance).
- Define Roles and responsibilities, determine a training needs analysis of the workforce and establish a training program



Step 3: Control Verification

- Conduct task inspections/in-field audits to verify nominated controls are in use and working effectively.
- Conduct system audits to verify aspects of plan have been implemented
- Implement exposure monitoring program as per Activity Schedule developed in Step 2

Note: Where equipment, tools or systems are identified as faulty, broken, malfunctioning or not operating as intended, the works must stop until a review of the controls is undertaken and corrected prior to works commencing again.

Step 4: Review and Continuous Improvement

- Review reports on findings from monitoring events and health surveillance activities.
- Report exceedances and health events to the regulators.
- Lessons learned and corrective action plans developed for in-field audit findings, monitoring program exceedances and OH incidents.
- Management of change - Modify existing controls and implement additional controls where exceedances are identified and /or process changes occurs. Update relevant documents to capture the changes.
- Directly incorporate learnings into the Project Risk Assessments, improving minimum controls as needed.

1.4 ABBREVIATIONS

AIOH	Australian Institute of Occupational Hygiene
COPD	Chronic Obstructive Pulmonary Disease
CSP	Crystalline Silica Process
CSS	Crystalline Silica Substance
HCIS	Hazardous Chemical Information System
HRCSW	High Risk Crystalline Silica Work defined as work performed in connection with a CSP that is reasonably likely to result in risk to the health of a person in the workplace (including where it is reasonably likely that the RCS exposure is greater than 50% of the WES / WEL)
LOR	Laing O'Rourke
mg/m³	Milligrams per metre cube (unit of measure for airborne concentrations of dusts and particulate)
RCS	Respirable Crystalline Silica
SFAIRP	So far as is reasonably practicable
SWA	Safe Work Australia
TWA	Time Weighted Average
WES / WEL	Workplace Exposure Standard / Workplace Exposure Limit
WHS	Workplace Health & Safety



2.0 HAZARD IDENTIFICATION

Common CSS products and their typical crystalline silica content include:

COMMON MATERIALS & STONE PRODUCTS	CRYSTALLINE SILICA CONTENT
Engineered stone	0% - 95%
Sandstone	70% - 95%
Granite	25% - 45%
Ceramic tiles	5% - 45%
Autoclaved aerated concrete; slate	20% - 40%
Concrete	30 - 80%
Cement	15 -25%
Brick	5% -15%
Marble	< 5%

Table 1: Common CSS Product and Silica Content – (From WorkSafe Victoria Crystalline Silica Safety Basics & Product information sheets)

Engineered stone, contains very high levels of silica and due to this increased risk, states and territories have imposed additional regulatory requirements on the use and processing of engineered stone. Consistent with these requirements, Laing O'Rourke has prohibited the purchase, use and processing of engineered stone across all projects. Works associated with the processing of legacy engineered stone require additional notification to the respective regulator and regulatory requirements, refer **Appendix 1 State Requirements**.

Note: [RCS is a hazardous chemical](#) (Quartz CAS: 14808-46-1) and (Cristobalite CAS 14464-46-1). You must manage risks to health and safety associated with using, handling, generating, or storing a hazardous chemical at a workplace, in addition to the general WHS duties. Refer to **PS Hazardous Substances and Dangerous Goods**.

2.1 HEALTH IMPACTS

RCS is categorised by the International Agency for Research on Cancer (IARC) as a Category 1 definite human carcinogen (cancer causing agent), meaning there is sufficient evidence to demonstrate that exposures to RCS can cause lung cancer.

Respirable crystalline silica (RCS) particles are less than 10 microns in diameter making them small enough to penetrate deep into the gas exchange region of the lungs when breathed in. Due to RCS size and surface area the body is unable to get rid of RCS particles once they embed in the lung. Over time with repeated exposure, RCS particles can build up in the lungs. When combined with the body's immune defence system inflammation, progressive scarring and deterioration of the lungs elasticity and function can occur. These conditions are called silicosis, a form of pulmonary fibrosis.

The symptoms of RCS exposure, namely silicosis may develop gradually, often remaining undetected until significant lung damage has occurred. These include:

- Persistent shortness of breath
- Severe coughing
- Weakness and general fatigue
- Increased risk of other lung diseases (pneumonia)

There is no cure for silicosis.



Silicosis has three categories:

- Acute silicosis can develop after a short-term exposure to very high levels of silica dust, for example, less than one year and after a few weeks, and causes severe inflammation and an accumulation of protein in the lung. Diagnosis of this aggressive form of the disease can often prove fatal within months of confirmation of diagnosis.
- Accelerated silicosis can develop after 3 to 10 years of exposure to moderate to high levels of silica dust.
- Chronic silicosis can develop after long term exposure (over 10 years) to lower levels of RCS. It can include progressive massive fibrosis of the lungs.

In addition to silicosis and lung cancer, RCS exposure can aggravate pre-existing respiratory system conditions and is closely associated with COPD, including emphysema and chronic bronchitis, which result in long-term airflow obstruction and respiratory deterioration. Additionally, kidney disease, chronic kidney failure and autoimmune diseases (scleroderma) have been associated with long-term exposure to RCS.

Exposure to RCS can cause progressive disease. Once diagnosed with the disease it will continue to progress even if the worker is removed from further exposure. There is no cure, only prevention.

2.2 UNDERSTANDING WORKPLACE EXPOSURE STANDARD/LIMIT FOR RESPIRABLE CRYSTALLINE SILICA

Under the model WHS Regulations, persons conducting a business or undertaking must ensure that no person at the workplace is exposed to an airborne contaminant at a level above the exposure standard in the Workplace Exposure Standards/Limits for airborne contaminants.

Workplace Exposure Limits (WELs) for airborne contaminants are defined as the maximum allowable concentrations of dusts, fumes, vapours, gases, or mists in the air measured in the worker's breathing zone that must not be exceeded, to protect the health and safety of a person/persons at a workplace.

Where workers work for longer than 8-hour day, 5-day work week, an adjustment factor is added to the WES to account for the longer exposure duration and reduced rest time i.e., increased body burden. The Québec model is to be used to calculate the Adjustment Factor with regard for the daily and weekly average working hours relative to the WES.

In Australia, WES / WELs are published in Workplace Health and Safety (WHS) legislation and on the Safe Work Australia (SWA) Hazardous Chemical Information System (HCIS).

To protect workers from occupational disease and illness, WES / WELs must not be exceeded. Compliance with the WES is required under Commonwealth, state and territory [WHS laws](#).

- The WES, 8-hour time weighted average (TWA) for RCS is 0.05 mg/m³.
- The 50% Action limit for Victoria / the Model states (see below) is 0.025mg/m³ and
- WorkSafe Victoria recommends that employees in Victoria are not exposed to levels above 0.02mg/m³ as a precautionary measure.

Exposures above the WES Action Level demonstrate that a process is not under reasonable control and existing controls require review to reduce exposure to SFAIRP.

In Victoria, where tasks are considered reasonably likely to exceed the 50% of the WES, the tasks are defined as HRCSW. In the Model states, you are required to consider whether tasks are reasonably likely to exceed 50% of the WES in determining whether a CSP is HRCSW. HRCSW requires additional management oversight and review to ensure that exposures are managed to SFAIRP.

2.3 QUANTIFYING THE EXPOSURE RISK - AIR MONITORING

Air monitoring is completed by a competent occupational hygienist using well-established methodology to determine the exposure profiles of workers against the WES when:

- Carrying out any tasks assessed as HRCSW
- There is uncertainty on reasonable grounds whether the airborne concentration of RCS exceeds the WES for the workplace (e.g., to determine whether a task is HRCSW)
- It is necessary to determine whether there is a risk to health.

Air monitoring requirements are determined in line with the requirements identified in **SR Health Surveillance and Exposure Hygiene Monitoring** and from the outputs of the Projects Health Risk Assessment.

Results of air monitoring are compared to the WES and are used to inform the risk profile of the works being conducted and to evaluate the effectiveness of the controls in place. Results of air monitoring are to be maintained for 30 years and are to be made available to the workers that may be exposed to RCS in the workplace.

Where monitoring results in respect of HRCSW indicate exposures above the WES / WELs (>0.05mg/m³) the results must be provided to the WHS Regulators of the model states using the regulator’s approved notification form (where applicable) (Victoria exempt). Results are to be notified as soon as is reasonably practicable, no later than 14 days from the date that the monitoring results are received by Laing O’Rourke.

Refer to **SR Event Management, Investigation and Reporting** for further information on regulator notification.

If the WES Action Level is exceeded, control measures must be reviewed to reduce exposure. When both assessing and reviewing the controls, the hierarchy of control must be implemented.

Exposure Category	Applicable Management / Controls
1 <1% of WES	No action necessary
2 <10% of WES	Standard procedures & training. General hazard communication. Continue with current controls
3 10-50% of WES	Category 2 plus: specific hazard communication, continue with planned monitoring program
4 50-100% of WES	Category 3 plus: review current higher-level controls, review individual high-risk tasks and targeted controls, workplace inspections to verify controls, medical surveillance as appropriate. Review PPE protocols for at risk tasks. Retest once additional controls implemented
5 >100% of WES	Category 4 plus: implement hierarchy of controls, monitoring to validate effectiveness of controls at mitigating exposure to acceptable levels and/or to assess the respirator protection factor selection when other controls are ineffective or not feasible. Record exposure event in INTELLEX and notify regulator (model states), distribute lesson learned.

Table 2: Exposure Categorisation and Applicable Management/ Controls

*Indicative Exposure Outcome is based on the definition of the Safe Work Australia Workplace Exposure Standards. It applies only to the individual exposures measured at the time and does not consider any increase or decrease in health effects due to the additive, synergistic or other potentiation effects that may arise from exposure by inhalation or other means of exposure such as skin contact or ingestion to a number of substances having the same target organ in the body.



2.4 HEALTH MONITORING

Health monitoring involves an assessment of a person's health by a registered Medical Practitioner with experience in occupational health monitoring, to identify any changes that may have resulted from the occupational exposure to a hazardous material/substance, like RCS. For workers exposed to RCS, this means checking for the early signs of serious lung diseases.

Health monitoring must be conducted for:

- workers involved in tasks that has been assessed as HRCSW; and
- workers who are exposed to a significant risk to their health and safety because of exposure to crystalline silica.

In Victoria, health monitoring is required for employees (including independent contractors) exposed to crystalline silica where the exposure is reasonably likely to have an adverse effect on their health under the particular conditions of the workplace. Former engineered stone licence holders are also subject to health monitoring requirements,

Health monitoring will be provided:

- Following a significant exposure event; or
- Where it is likely/suspected that the worker is routinely exposed to respirable crystalline silica at levels approaching or exceeding the exposure standard exposure levels; or
- A worker is concerned about their exposure or demonstrating symptoms of an adverse health outcome related to exposure.

Note: In Queensland, if RPE is required to be worn more than 30 times in a single year, or it is reasonably foreseeable that a worker will be required to wear RPE more than 30 days in the next year, health monitoring is required.

Health monitoring is to be carried out prior to commencing work (in order to establish a baseline) and thereafter at regular intervals (e.g. annually, every two years). The frequency of health monitoring will be determined by a risk assessment and the significance and frequency of past or future exposure, along with any recommendations of the treating medical practitioner.

The frequency of follow up X-rays should be based on exposure levels. X-Rays may be substituted with High Resolution CT scan (Note: a high-resolution CT scan is mandatory in Western Australia). For example, Safe Work Australia recommends as follows:

- For workers with lower risk, x-rays are recommended every five years during the first 20 years of work.
- Workers with abnormal X-ray results, prolonged or significant exposure or more than 20 years of work history may require X-rays every three years.
- For very high exposure scenarios e.g. tunnelling occupations, annual X-rays may be required.

It is important to consider the impact of lifestyle risk factors like smoking and vaping on lung function, workers history and status should be recorded and considered during the health monitoring program.

Laing O'Rourke is to obtain copies of the health monitoring report from the medical practitioner as soon as practicable following the assessment and securely maintain the records in line with privacy and confidentiality laws. The worker is to be provided with a full copy of their health monitoring report.



2.4.1 HEALTH MONITORING BEFORE STARTING WORK IN A CRYSTALLINE SILICA PROCESS

Symptoms of silicosis and progressive massive fibrosis may not appear for many years after exposure (workers may be diagnosed with these diseases and not present with any symptoms, even at the point of initial diagnosis), which is why health monitoring is critical. Health monitoring for crystalline silica may be required before the worker starts work so that a baseline can be established and any changes to the worker's health after commencing the work can be detected.

Initial discussions about a health monitoring program should include:

- possible health effects from exposure to crystalline silica
- how to recognise and report symptoms, and
- what is involved in the health monitoring program, for example the frequency of testing and the tests that may be needed, and
- recording any previous workplace or non-occupational exposure to silica.

An initial physical examination by the registered medical practitioner should place emphasis on the respiratory system, including baseline spirometry. The spirometry should be performed as a baseline and annually in accordance with appropriate quality guidelines, so that it may be used later for comparison.

A baseline chest X-ray should also be performed before a worker starts work in a crystalline silica process. Should this be required, it should be taken in a specialist radiology practice or hospital radiology department. The X-rays should be read by an experienced radiologist who meets the reporting requirements and competencies of the Royal Australian and New Zealand College of Radiologists or is qualified as a B reader.

Depending on the past exposures and medical history, the registered medical practitioner may recommend carrying out further tests with a specialist in order to detect early-stage silicosis.

2.4.2 HEALTH MONITORING DURING EXPOSURE TO A CRYSTALLINE SILICA PROCESS

Where workers are exposed, suspected of being exposed or are concerned about exposure to crystalline silica, the person conducting the business or undertaking (PCBU) has a duty to arrange a health monitoring appointment for the worker(s) with the registered medical practitioner.

Workers should undergo a medical examination annually. The medical examination should include:

- records of personal exposure
- physical examination
- standardised respiratory questionnaire and pulmonary function tests in accordance with appropriate quality guidelines, and
- chest X-Ray full posterior-anterior (PA) view (as indicated, see below).

Respiratory function tests

Respiratory function testing should be conducted in accordance with appropriate quality guidelines. Tests should be performed as a baseline and annually.

Individuals with progressive decreases in respiratory function beyond that normally associated with age should be reviewed more frequently or referred to an accredited respiratory physician with experience in occupational health.

Cigarette smoking can significantly exacerbate lung function loss attributable to silica dust exposure. The smoking history and status of the worker should be recorded and considered during the health monitoring program. Advice regarding the impact of smoking on the symptoms of disease should also be provided to the worker.



Chest X-ray

Chest X-rays should be carried out as a baseline measure. The frequency of follow up X-rays should be based on exposure levels.

X-rays should be taken in a specialist radiology practice or hospital department. The X-rays should be read by a radiologist who meets the reporting requirements and competencies of the RANZCR or is qualified as a B reader.

For lower risk occupations and industries, a chest X-ray is recommended to be carried out every five years for the first 20 years of work. An abnormal X-ray, increased or prolonged exposure (above the exposure standard or greater than 20-year work history) may warrant X-rays on a more frequent basis (for example, three yearly). Where a worker has experienced very heavy exposure, annual X-rays may be warranted.

The WHS Regulations prescribe an X-ray as a minimum, but another type of health monitoring may be undertaken where the registered medical practitioner considers it is equal or better. For high-risk occupations and industries, such as the composite stone industry, a high-resolution computed tomography (HRCT) should be considered. X-rays are less sensitive in detecting accelerated silicosis.

At a minimum, if not HRCTs, annual X-rays should be considered for high-risk occupations and industries, such as the composite stone industry, rather than every five years.

NOTE: Registered medical practitioners should be aware of the potential for excessive X-rays where the worker has worked for multiple employers, particularly in the construction and mining industries.

Other health monitoring methods including use of HRCT

High-resolution computed tomography (HRCT) has been demonstrated to be more sensitive than X-rays in detecting early dust lung disease. Use of a HRCT scan of the chest (non-contrast) may be considered depending on the worker's history and levels of silica exposure. For high-risk occupations or industries, such as the composite stone industry, HRCT should be considered instead of, or as an adjunct to, X-ray.

With the identification of rapidly progressive silicosis and advanced disease in high-risk workers, notably those that work with composite stone, there may be a need to conduct more rigorous respiratory function testing. For example, incorporating measurement of the diffusing capacity of the lungs for carbon monoxide (DLCO). This is a more recent test that may not be available in regional and rural areas and may only be offered through specialist respiratory laboratories.

Workplace exposure standard

The workplace exposure limit for crystalline silica (all forms) is:

- eight-hour time weighted average (TWA) of 0.05 mg/m³.

A physical examination and respiratory function testing may be required if the results of air monitoring indicate frequent or potentially high exposure (for example, half of the TWA or above). The results of air (dust) monitoring should be provided to the registered medical practitioner to inform the frequency of testing.

Removal from work

There is evidence that disease may continue to progress even after exposure to crystalline silica dust has ceased. Where the results of a medical examination indicate the worker is displaying signs or symptoms of exposure to crystalline silica, the registered medical practitioner should consider recommending the worker be removed from crystalline silica-related work.

When removal from crystalline silica-related work is indicated the registered medical practitioner must provide the PCBU with the following recommendations:

- the worker should be removed from work with crystalline silica, and
- the PCBU should review control measures and carry out recommended remedial action.



Where recommended by the registered medical practitioner, the PCBU should ensure that:

- the control measures are reviewed, and the recommended remedial actions are followed to minimise the exposure,
- the worker must be informed of the results of the health monitoring, and
- if the health monitoring report indicates that worker may have contracted a disease or illness, the PCBU must provide a copy of the health monitoring report to the WHS regulator.

Return to work

Should a worker be removed from crystalline silica-related work, they must not return until the registered medical practitioner has:

- assessed them as medically fit, and
- made a recommendation to the PCBU that the worker can return to remediated crystalline silica-related work.

The assessment from the registered medical practitioner should consider:

- the clinical condition of the worker
- the resolution of symptoms, and
- remediation of the circumstances that led to the symptoms if possible.

The PCBU should provide advice to the registered medical practitioner about workplace monitoring undertaken and that the control measures and all recommended remedial actions are in place (for example through a revised risk assessment). The PCBU should ensure that the worker is returned to remediated work only after PCBU has received formal notification from the registered medical practitioner.

2.4.3 FINAL MEDICAL EXAMINATION AT TERMINATION OF WORK IN A CRYSTALLINE SILICA PROCESS

A final medical examination should be carried out by the registered medical practitioner and may include:

- medical history
- physical examination
- spirometry
- referral for another chest X-ray or CT.

The choice of imaging modality for the final medical examination should be consistent with the most recent form of imaging the worker had under the health monitoring program.

Workers with health conditions or continuing symptoms due to crystalline silica exposure should be advised to seek continuing medical examinations as organised by the registered medical practitioner supervising the health monitoring program.

A health monitoring report from the registered medical practitioner should be provided to the PCBU as soon as practicable after the completion of the monitoring program, and at regular intervals for longer term or ongoing health monitoring processes. The report must include:

- the name and date of birth of the worker
- the name and registration number of the registered medical practitioner
- the name and address of the PCBU who commissioned the health monitoring
- the date of the health monitoring
- any test results that indicate whether or not the worker has been exposed to a hazardous chemical
- any advice that test results indicate that the worker may have contracted an injury, illness or disease as a result of carrying out the work that triggered the requirement for health monitoring



- any recommendation that the PCBU take remedial measures, including whether the worker can continue to carry out the type of work that triggered the requirement for health monitoring, and
- whether medical counselling is required for the worker in relation to the work that triggered the requirement for health monitoring.

In Victoria, the linked form is to be completed should a worker be identified as completing HRCSW and requiring health monitoring: <https://www.worksafe.vic.gov.au/resources/hazardous-substance-health-monitoring-report>.

The employer must complete section 2 of the form and supply it to the registered medical practitioner before health monitoring is provided.

The registered medical practitioner will:

- Assess the employee for adverse effects
- Certify the employee's fitness to work with the hazardous substances (RCS).

2.4.4 REMOVAL FROM WORK AND NOTIFICATION OF OCCUPATIONAL DISEASE TO REGULATORS

If health monitoring reveals evidence of silica-related illnesses, the worker must be immediately removed from tasks involving any risk of further RCS exposure.

An immediate stop of works, risk review and re-assessment of control measures is required. Affected workers may only resume RCS-related tasks after being assessed and cleared as medically fit by a registered medical practitioner. Upon stopping RCS-related work, a final health examination, including spirometry and imaging, must be conducted to evaluate the worker's health and inform any necessary ongoing medical care. These results must be documented in health monitoring reports and retained for 30 years.

Refer to **SR Health Surveillance and Exposure Hygiene Monitoring** for further information.

The WHS Regulator for all states and territories must be informed (using, where applicable, the regulator's approved form) and provided with a copy of the health monitoring report as soon as is reasonably practicable after obtaining the report where there is evidence of the development of occupational disease following RCS exposure and if the registered medical practitioner recommends remedial measures (such as stopping a worker from continuing to perform particular work or implementing additional exposure controls).

3.0 RISK MANAGEMENT

3.1 DESIGN

One of the three pillars of our Rethinking Safety through Inclusion + Wellbeing program is Engineered Safety. Our intention, under this pillar, is to 'engineer out risk' and 'engineer in health' through every stage of the project's lifecycle. In the case of crystalline silica, this means eliminating, or otherwise minimising, the use of silica containing materials wherever possible and opting for lower silica content if it cannot be eliminated. The design stage of our projects is a key opportunity to achieving this objective.

Wherever possible designs should also eliminate, or otherwise minimise, the need for silica dust producing construction processes through methods such as prefabrication and application of DfMA (Design for Manufacture and Assembly) principles.

If the elimination of crystalline silica containing materials is not possible, substitution of these materials with alternatives that have a lower silica content should be considered. For instance, replacing engineered stone with natural stone or other composite materials with minimal crystalline silica content can effectively reduce the associated risks. The selection of these substitute materials must align with project specifications, durability requirements, and safety objectives.

Note: Manufacturers and importers are required to label their products if they contain 0.1% or more respirable crystalline and provide a current Safety Data Sheet (SDS). Suppliers must ensure these products are correctly labelled when supplied to workplaces and provide an SDS. You must obtain a copy of the SDS and make it accessible to workers involved in the using handling or storing the hazardous chemical at the workplace.



3.2 IDENTIFICATION OF HRCSW

Each project must assess CSP carried out at the workplace to determine if the process is HRCSW. The Project Risk Assessment and Health Risk Assessment Documents should provide high level oversight regarding the potential for CSP activities and considerations regarding appropriate control measure selection. Risks associated with the design, manufacture, import or installation of a CSS must be included within the Project Risk Assessment (PRA).

Note: The WHS/OHS Regulations prohibit using materials containing > 1% crystalline silica in abrasive blasting processes. You must not permit or direct others to use this material in abrasive blasting processes.

HRCSW is where the work is reasonably likely to result in an airborne concentration of RCS that exceeds half the workplace exposure standard ($0.05\text{mg}/\text{m}^3$) for RCS, or a risk to the health of a person at the workplace.

Before a crystalline silica process is undertaken either:

- A risk assessment is conducted to determine if the process is HRCSW, or
- The crystalline silica process is assumed to be HRCSW without conducting a risk assessment.

HRCSW Tasks on construction projects include, but are not limited to: Jackhammering / breakback, tunnelling, demolition, concrete cutting, profiling, scabbling, grinding/patching/mixing and drilling into concrete.

The Laing O'Rourke **RCS HAZID & ECP Tool** can be used to complete an individual risk assessment on the identification, determination and management of HRCSW activities. It is recommended that the tool and risk assessment process is completed collaboratively with relevant workers, supervision, engineers, HSRs and safety team members inclusive of an occupational hygienist (where available).

The **LOR RCS HAZID & ECP Tool** encompasses the following requirements to determine if a task is to be classified as HRCSW:

- The specific Crystalline Silica Processes / tasks that will be undertaken
- The form(s) of crystalline silica present in the CSS
- The proportion of crystalline silica contained in the CSS, determined as a weight/weight (w/w) concentration
- The hazards associated with the work, including the likely frequency and duration of exposure to RCS
- Whether the airborne concentration of RCS that is present at the workplace is reasonably likely to exceed half the workplace exposure standard
- Any relevant previous air and health monitoring results
- Any previous incidents, illnesses or diseases associated with exposure to respirable crystalline silica at the workplace.

Note: engineering, administration and PPE controls cannot be used in the determination of the initial risk profile. They can be only applied regarding whether the risk is categorised as 'controlled' or 'uncontrolled' as per section 3.3 Control of HRCSW.

Where there is uncertainty regarding the risk profile of the CSP given the above information, the task is to be classified as HRCSW until the Project can determine that the processing is not high risk.

The risk assessment must be fully documented in writing and managed locally on the Project Document Management System. The risk assessment needs to be available to the affected workforce and relevant health and safety representatives.

Where HRCSW has been identified one of two documented processes must be undertaken to capture RCS exposure risk management as listed below. The preparation of these documents should be consultative with the workforce to ensure the practicability of the controls, and their effectiveness is understood.



Option 1: a silica exposure risk control plan must be implemented to manage the risk of exposure to SFAIRP per Section 3.3 Control of HRCSW. The exposure control plan must detail a hazard control statement encompassing:

- The hazards and risks associate with the CSP task
- Include the HRCSW determination risk assessment
- The control measures to be used
- How the risk control measures are implemented, monitored and reviewed
- Must be set out in a ready accessible and comprehensible way.

Option 2: A silica exposure risk control plan is not required if:

- The CSP is classified as HRCSW AND
- A Safe Work Method Statement (SWMS) has been prepared and captures all of the requirements of option 1.
- A SWMS satisfies the requirements of both a **Silica Risk Control Plan** in the model states/territories (ACT, NSW, NT, QLD, SA, TAS, WA) and a **Hazard Control Statement** (VIC) assuming the above criteria are met.

Refer to the **SR Safe Work Method Statement** for the criteria that apply to SWMS development, consultation, and review.

The **LOR RCS HAZID & ECP Tool** provides a template for preparing a silica exposure control plan inclusive dissemination and provision of information to the workforce.

Note: If the activity is assessed as HRCSW, additional requirements are required. These include training, health monitoring, SWMS and may require air monitoring.

3.3 CONTROL OF HRCSW

There is a requirement to ensure that all Crystalline Silica Processes (CSP) are controlled to reduce the risk of RCS exposure to the workforce to SFAIRP. Engineering controls are the priority where CSP cannot be eliminated or substituted with provision and usage of appropriate respiratory protection required where there is an uncertainty of risk profile or where HRCSW has been identified.

CSP are considered to be controlled if:

- Control measures to eliminate or minimise risks arising from the processing are implemented so far as is reasonably practicable; and at least 1 of the following measures are used:
 - The isolation of a person from dust exposure
 - A fully enclosed operator cabin fitted with a high efficiency air filtration system
 - An effective wet dust suppression method (e.g., continuous on-tool suppression)
 - An effective on-tool extraction system / shroud
 - An effective local exhaust ventilation system; and
- If a person still at risk of being exposed to respirable crystalline silica to levels above the action levels the worker is provided with and wears respiratory protective equipment while the work is carried out. The respiratory to protective equipment must be compliant to AS/NZ 1716:2012 and AS/NZ 1715:2009.

Note: Where equipment, tools or systems are identified as faulty, broken, malfunctioned or not operating as intended the works must stop until a review of these controls is undertaken and corrected prior to works commencing again.

Refer to **Appendix 2 Examples Control Strategies for Silica (Hierarchy of Control)**

3.4 PROCESS OVERVIEW

Figure 1 provides an overview for the hazard identification and risk management considerations when a CSS and CSP is identified on a Project. The documentation and processes are cyclical and open to continuous monitoring, review and improvement.

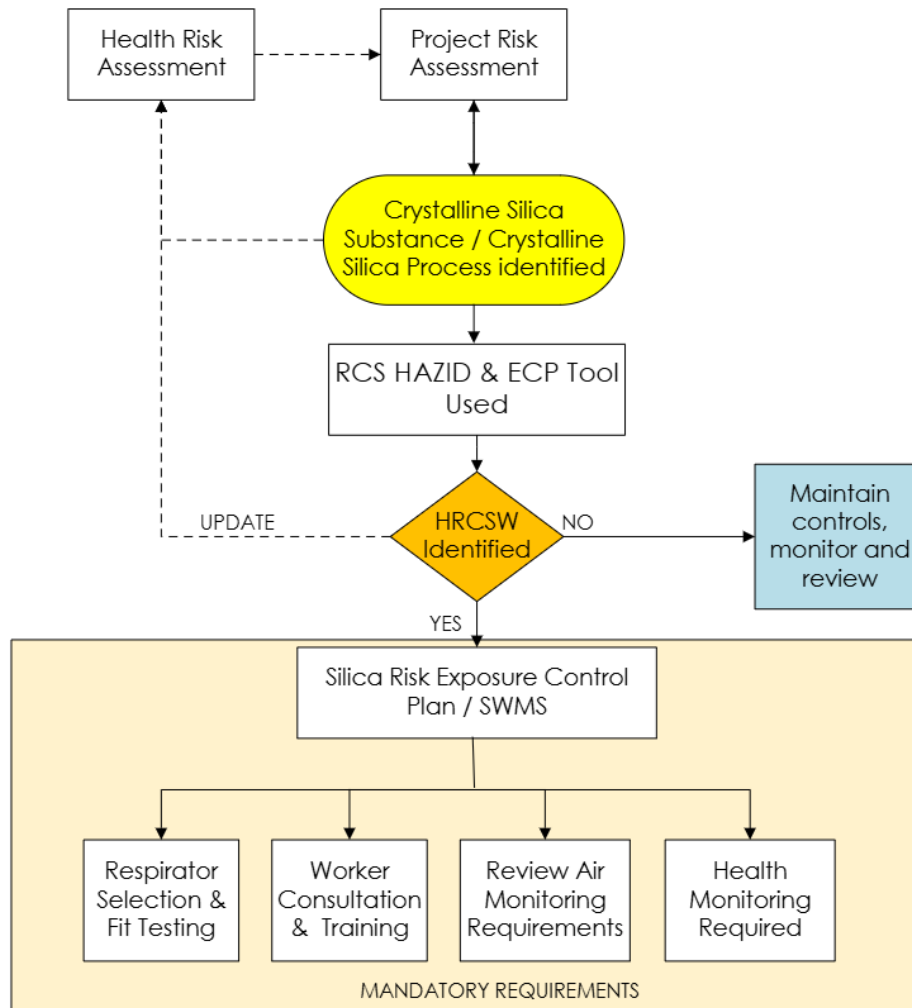


Figure 1 Hazard identification and risk management considerations overview when a CSS and CSP is present



4.0 INFORMATION, INSTRUCTION, TRAINING & CONSULTATION

Workers must be provided with information, training, and supervision required to manage the risks associated with RCS where they are involved in HRCSW or are at risk of RCS exposure due to the HRCSW. Training should occur prior to the HRCSW commencing and following any changes to methodology or process that could impact RCS exposure.

Training must cover in detail:

- The health risks associated with exposure to RCS
- The need for, and proper use of any risk control measures as identified within the regulations and exposure control plans.

In the Model States and territories, the training provided must be accredited or approved by the regulator. Training requirements are specified by each state regulator and summarised in **Appendix 1 State Requirements**. Accepted training courses include:

- 10830NAT – Course in Crystalline Silica Exposure Prevention (Mandatory in ACT)
- CPCSIL3001 – Work with Products and Materials Containing Crystalline Silica
- CPCSIL4001 – Supervise and manage work with products and materials generating respirable crystalline silica
- Some jurisdictions specify other external training courses that are approved by the regulator.
- Alternatively, internal training that meets a set of criteria is accepted in some jurisdictions.

Records of training must be kept securely while the worker is completing HRCSW and for 5 years after the day the workers stops working for the business.

In Victoria, training must be provided in respect of HRCSW, however there is no requirement for the training course to be accredited or approved by the regulator. In Victoria, job applicants for HRCSW must also be given information about the health risks associated with exposure to RCS and details about the control measures.

In addition to training for HRCSW, workers who may be exposed to RCS must also be provided with information and training on how to work safely. Workers who use RPE must be given training on the proper use, wearing and storage of RPE, including how to carry out a fit check.

5.0 ROLES AND RESPONSIBILITIES

ROLE	RESPONSIBILITIES
PROJECT LEADER / DIRECTOR	<ul style="list-style-type: none"> • Ensure a suitably qualified supply chain partners are engaged to undertake the works and understands what requirements are needed to be fulfilled to manage any health or hygiene risks associated with the works. • Develop and implement management strategies to mitigate health & safety risks and promote Rethinking Safety through Inclusion & Wellbeing principles. • Ensures Project's Occupational Health and Hygiene Management Plan requirements are implemented. • Ensure tasks are identified that involve processing of a CSS and ensure it is included within the Project Risk Assessment.
SUPERVISOR / FRONTLINE LEADER	<ul style="list-style-type: none"> • Ensure compliance with the Project's Occupational Health and Hygiene Management Plan. • Assist with the identification and review of any crystalline silica processes being planned and performed. • Ensure exposure control plans and SWMS are implemented and effective in the field. • Assist with the implementation and delivery of the air monitoring program. • Support the implementation and co-ordination of the health monitoring programs. • Obligation to notify of changes in conditions or ineffectiveness of controls e.g. if revision to risk assessment is required.
HEALTH & SAFETY MANAGER	<ul style="list-style-type: none"> • Conduct Project Risk Assessment which includes occupational health and hygiene risks as per SR Risk Assessments and SiD. Review and update per the findings of monitoring activities. • Determine or facilitate the determination of fitness for work for all workers. • Ensure onboarding process includes briefing of health and hygiene risks and controls to workforce. • Check that health monitoring activities are carried out in accordance with scope of work and legal obligations. • Ensures the Project's Occupational Health and Hygiene Management Plan requirements are implemented and updated as required.
OCCUPATIONAL HYGIENIST	<ul style="list-style-type: none"> • Undertake Health Risk Assessments (Level 1, Level 2, Level 3). • Jointly Facilitate the CSP review for HRCSW and formal risk assessment with the H&S Manager and Supervision Team. • Provide recommendations and support to the project to assist with implementing control measures to mitigate RCS exposure risks based on the risk profile. • Assist in the determination of workers and roles that trigger the requirements of health monitoring and air monitoring. • Assist in the interpretation of findings of medical monitoring reports and assist in implementing controls to reduce exposure risks.
WORKERS / ALL STAFF	<ul style="list-style-type: none"> • Participate fully in the occupational exposure and health monitoring programs when required. • Report to their supervisor/team leader any condition that has the potential to impair their ability to safely perform the functions of their position. • Report to their supervisor/team leader of changing work conditions or ineffectiveness of controls prescribed. • Undertake or ensures compliance with information provision, training, consultation and supervision requirements for workers.

6.0 FORMS AND TEMPLATES

For relevant plans, forms and templates see the Laing O'Rourke HSEMS at www.lorhsems.com.



APPENDIX 1 – STATE REQUIREMENTS

STATE	MANDATORY REQUIREMENTS
NSW	<p>Uncontrolled processing or dry cutting prohibited. Controlled processing of a CSS must include at least:</p> <ul style="list-style-type: none"> • Isolation of a person from dust exposure (e.g., barriers or isolation zones). • Use of a fully enclosed operator cabin equipped with a high-efficiency air filtration system. • An effective wet dust suppression method (e.g., water delivery systems). • An effective on-tool dust extraction system. • An effective local exhaust ventilation system. <p>If exposure risk still present RPE provided and worn for the duration of the activity.</p> <p>Silica Worker Register – Notification</p> <p>The employer of the workers is to provide the following information to SafeWork NSW, via its website (as soon as reasonably practicable and no more than 28 days from the date the processing of a CSS that is HRCSW commences):</p> <ul style="list-style-type: none"> • Information about the workers including name, date of birth, phone number and email address of each worker carrying out the processing of a CSS that is HRCSW. • Information about the business or undertaking including business name, the industry in which the business or undertaking is primarily conducted, ABN, phone number, email address, business address, the name of a contact person who is an individual, details of current workers compensation insurance policy • Information about processing of CSS that is HRCSW including the location of the processing of a CSS that is HRCSW, the date the processing commenced, whether the processing involves or is associated with the construction of a tunnel, and if so, the name of the project. • Information about health monitoring including whether, in the previous 12 months, the PCBU engaged a person to undertake health monitoring of workers carrying out processing of a CSS that is HRCSW. <p>Note: The silica worker register notification process is to be centrally managed by the HSE Governance Team for workers employed by Laing O'Rourke Construction and Select Plant Australia. All sub-contractor notifications are to be undertaken by their Employer.</p> <p>WES exceedance notification form</p> <p>Notification of adverse health monitoring report form</p>
VIC	<p>The uncontrolled dry cutting of legacy engineered stone is not permitted. If risk cannot be eliminated, one of the following (or combination) must be implemented:</p> <ul style="list-style-type: none"> • Substitute crystalline silica with a substance less hazardous • Isolate persons from exposure to crystalline silica • Use engineering controls such as on-tool water suppression or on-tool dust extraction. <p>If exposure cannot be prevented, the risk must be reduced firstly by controls other than personal protective equipment (PPE).</p> <p>Before commencing HRCSW involving quarrying or tunnelling, employers or self-employed individuals must collect material samples and have them analysed by a competent person to determine their crystalline silica content</p>
WA	<p>Uncontrolled processing or dry cutting prohibited. Processing must address the controls referred to above for NSW.</p> <p>Higher order controls are required to control the processing of a CSS. If exposure cannot be prevented, administrative and PPE controls may be implemented to control the risk.</p> <p>WES exceedance notification form</p>
SA	<p>Uncontrolled dry cutting of a CSS prohibited. Processing must address the controls referred to above for NSW.</p> <p>CSS processing must prioritise higher-order strategies. Administrative and PPE level controls must not be used when aiming to control the risks associated with RCS exposure.</p> <p>WES exceedance notification form</p>



STATE	MANDATORY REQUIREMENTS
QLD	<p>Uncontrolled dry cutting of a CSS prohibited. Processing must address the controls referred to above for NSW.</p> <p>If exposure cannot be prevented, the risk must be reduced through firstly by controls other than personal protective equipment (PPE).</p> <p>WES exceedance notification form</p> <p>Notification of adverse health monitoring report form</p> <p>Health monitoring required if respiratory protective equipment is worn for 30 or more days within 12 months. If reasonably foreseeable RPE worn greater than 30 times in the next 12 months, health monitoring required.</p>
NT	<p>Uncontrolled dry cutting of a CSS prohibited. Processing must address the controls referred to above for NSW.</p> <p>The use of higher order controls such as isolation or engineering controls (such as wet dust suppression and local exhaust ventilation) is critical to minimising worker exposure to RCS.</p> <p>WHS exceedance notification form</p>
ACT	<p>Uncontrolled processing of crystalline silica materials is prohibited, must not allow or direct dry cutting.</p> <p>PCBUs are required to work through the controls set out in chapter 7A of the WHS regulation to determine the most effective in managing the exposure to silica dust.</p>



STATE	TRAINING REQUIREMENTS	OTHER	10830NAT	CPCSIL3001	CPCSIL4001
NSW	See Regulator approved training – VET accredited training, regulator approved training or internal training that meets the regulator's training criteria If training is conducted internally, a silica training record form must be completed	<ul style="list-style-type: none"> - TAFE NSW Course: Silica Awareness and Safety - Internal 	Yes	Yes	Yes
VIC	<p>Training courses do not need to be accredited or approved by the regulator.</p> <p>Employers must ensure that employees likely to be exposed to risks associated with HRCSW receive information, instruction, and training covering:</p> <ul style="list-style-type: none"> • The health risks associated with exposure to crystalline silica dust. • The necessity for, and proper use of, any required risk control measures. • The implementation procedures for these risk control measures. <p>Employers must ensure that employees who use a power tool or mechanical plant to undertake an engineered stone process are provided with information, instruction, and training covering:</p> <ul style="list-style-type: none"> • Use of the power tool or mechanical plant • The use, fit, maintenance and storage of RPE. 	<ul style="list-style-type: none"> - Internal - Recognised Training Provider 	Yes	Yes	Yes
WA	See Regulator approved training – VET accredited or regulator approved training	<ul style="list-style-type: none"> - HIA Silica awareness training 	Yes	Yes	Yes
SA	See Regulator approved training – VET accredited or regulator approved training SafeWork SA is now accepting applications for a training course (e.g. internal training) to be approved as a regulator approved training course	<ul style="list-style-type: none"> - Internal training (where approved by the regulator) - Housing Industry Association – Silica Awareness Training - HIA South Australia Region - Master Builders Association of SA Inc - Crystalline Silica Safety & Compliance Training - Training - Mining and Quarrying Occupational Health and Safety Committee - Crystalline Silica Substances Training 	Yes	Yes	Yes













STATE	TRAINING REQUIREMENTS	OTHER	10830NAT	CPCSIL3001	CPCSIL4001
		<ul style="list-style-type: none"> - Health Safety Environment Australia - Training - Boral Construction Materials - Understanding Respirable Crystalline Silica - What You Need to Know as a Worker 			
QLD	<p>See Regulator approved training VET accredited courses and internal or third-party training which addresses the matters specified by the regulator</p> <p>If regulator approved training is conducted internally, a silica training record form must be completed</p>	<ul style="list-style-type: none"> - Internal or third-party training which addresses the matters specified by the regulator 	Yes	Yes	Yes
NT	<p>See regulator guidance for internal training that is accepted and information on training for PCBUs</p> <p>The PCBU is required to provide workers with appropriate information, training, instruction and supervision on the relevant RCS dust control measures. This should include the provision of relevant information on the use and care of personal protective equipment (PPE) and on personal cleanliness.</p>	<ul style="list-style-type: none"> - Internal 	Yes	Yes	Yes
ACT	<p>Work Health and Safety (Crystalline Silica Awareness Training Course and Occupations) Declaration 2023 and the regulator requires specified occupations and those who are reasonably expected to be exposed to airborne silica dust as part of their work to complete 10830NAT: Course in Crystalline Silica Exposure Prevention.</p>	No	Yes	No	No




STATE	LEGACY ENGINEERED STONE (demolition) Installed before 1 st July 2024
NSW	Notification to SafeWork NSW before starting the work, re-notify every 12 months, and within 30 days of any changes to previous notifications. If such work is unknowingly performed, notify as soon as you become aware.
VIC	An engineered stone licence is not required to work with engineered stone installed, any repair, modification, removal, or disposal of such materials must be treated as HRCSW and conducted using associated controls for HRCSW and required controls for engineered stone (see above).
WA	Notification to the WorkSafe Commissioner before starting any processing of legacy engineered stone, re-notify every 12 months if the work continues, and update the Commissioner promptly about any changes to previously provided information. If such work is unknowingly performed, notify the WorkSafe Commissioner soon as you become aware
SA	Notification to SafeWork SA before starting the work, re-notify every 12 months, and within 30 days of any changes to previous notifications. If such work is unknowingly performed, notify SafeWork SA as soon as you become aware
QLD	Notification to WorkSafe Queensland prior to carrying out, directing, or allowing a worker to carry out legacy engineered stone works; re-notify every 12 months and within 30 days of any changes. If such work is unknowingly performed, notify as soon as you become aware
NT	Notification to WorkSafe Northern Territory prior to carrying out permitted work to remove, dispose, repair or make minor modifications to legacy engineered stone; re-notify every 12 months and within 30 days of any changes. If such work is unknowingly performed, notify as soon as you become aware
ACT	Notification to WorkSafe ACT before carrying out, or directing or allowing a worker to carry out, work that involves processing of legacy engineered stone. Including for the purposes of disposal. If such work is unknowingly performed, notify as soon as you become aware



APPENDIX 2 – EXAMPLE CONTROL STRATEGIES FOR SILICA (HIERARCHY OF CONTROL)

Hierarchy	Controls
Elimination/ Substitution	<ul style="list-style-type: none"> • Precast anchor points. • Lower-level silica content in new product / concrete. • Review of pile break back methods required to reduce quantity of manual break back. Methods to be reviewed include: Zero trim piling method, croppers, chemical fracturing, use of remote demolition robots / jack hammers (e.g. Brokk).
Isolation	<p>Separate out the work areas and interfaces - enclosures, solid screening, exclusion zones (where personnel are restricted access), enclosed cabin plant with high efficiency filters.</p>
Engineering (Power tools)	<p>Where HRCSW is being performed either water suppression &/or dust extraction is required.</p> <p>Respiratory equipment is to be used in conjunction with the risk profile of the task.</p> <p>NO DRY CUTTING OR DRILLING is to be performed on the project unless an extraction system is in place. Options include but are not limited to the following items.</p> <ul style="list-style-type: none"> • Hollow drill bits. • On tool extraction, retrofitted attachments, appropriate shrouds • On tool continuous water supply suppression and wet cut methods fine mist sprayer (cone sprayers on jackhammering tasks, constant water supply / water pump injection during concrete cutting). Handheld garden hoses and intermittent delivery systems are not considered effective controls. • Local exhaust ventilation options are in use (whale tale over mixing points), portable local extraction solutions with class M H dust extraction / vacuum units <p>Note: Laing O'Rourke does not endorse any specific brands, makes or models. The below images are for visual representation of market accessible options.</p>
	 
	  
	 

Hierarchy	Controls
<p>Engineering (Civil / mobile plant / construction)</p>	<p>General</p> <ul style="list-style-type: none"> Engineered spray mist systems onto stockpiles and surfaces that require demolition (directional mister cannons). Water carts on roads and stockpiles. Enclosed cabin plant with windows and doors closed, seals inspected and good housekeeping to keep material from boots in footwells clean as practicable to avoid recirculation. Recirculating air-conditioning on in identified high risk activities. HEPA filter installed, as required. <p>Piling and demolition</p> <ul style="list-style-type: none"> Rig based suppression for drilling / rock breaking. <p>Excavation</p> <ul style="list-style-type: none"> Excavation activities to incorporate dust reduction measures inclusive bucket height release as low to offload point as practicable. Slow tip to reduce dust generation, sprays at loading station (where practicable). <p>Profiling</p> <ul style="list-style-type: none"> Profiling machines to have operational vacuum cutting systems, sprays installed over all conveyor belts and water additives in the tanks that to bind the dust particles
<p>Engineering (Water Suppression)</p>	<ul style="list-style-type: none"> Water suppression needs to be in the form of a misting spray, not a jet stream. High pressure hoses, sprinklers, watering cans, spray bottles or garden hoses do not remove silica dust from the air. For dust suppression to be effective, the water droplet size needs to match the particle size generated by the activity. As silica particles are so small, water suppression needs to be delivered as a mist to be effective in knocking the dust out of the air. Water additives may be required where hydrophobic dusts are generated such as during profiling activities. <div data-bbox="379 1032 1209 1854" data-label="Diagram"> <p>If droplets are similarly in size to the suppressing droplets they will collide with them and dust suppression will be more successful</p> <p>If droplets are too big then dust particles will tend to move around the droplet as air moves around them. This will impede successful dust suppression</p> </div> <p>Note: Where equipment, tools or systems are identified as faulty, broken, malfunctioned or not operating as intended the works must stop until a review of these controls is undertaken and corrected prior to works commencing again.</p>

Hierarchy	Controls
<p>Administration</p>	<ul style="list-style-type: none"> • Speed limits on access and haul roads • Silica Risk assessment and Exposure control plan (LOR RCS HAZID & ECP Tool) • Hazard Controls in SWMS. • Health surveillance protocols in place for identified high risk workers within supply chain and self-performing roles. High exposure risk tasks and occupations from supply chain have medical surveillance conducted. • Occupational Hygienist informed when high risk tasks are being performed to complete exposure monitoring program for control validation. • Workers have completed silica awareness training. • Fit testing program and masks available and in stock on site. Individuals to be clean shaven when wearing negative pressure masks and provided with information, instruction and training on the use, fit and maintenance of the mask, (inclusive storage requirements for re-usable options). • Job rotation within the shift to reduce total exposure time to individuals and consideration to SIMOPS, positional works regarding environmental factors (upwind) a distance from source of hazard. • Good housekeeping practices – clean as you go, M / H Class vacuum, gerni clean with wet vac or shovel methodology. ⊘ Compressed air and dry sweeping must not to be used as a clean-up method • Silica waste management protocols established. <ul style="list-style-type: none"> • Light blue silica dust waste bins available at site compounds. • Supply chain is to provide appropriate plastic waste disposal bags to double bag all hazard dust waste generated as part of their scope of works. • Dust containment vessels such as vacuums can be emptied into the plastic bags, goosenecked, tied off securely with tape or cable tie and placed into the blue bins or site silica skip bins. Project will co-ordinate off-site disposal. • Sediment bags can be used following wet vacuum clean-up. Once hardened these can be disposed of in the concrete bins if solid or dust bins if fines are present. <div style="text-align: center;">  </div> <ul style="list-style-type: none"> • Decontamination protocols must be established for PPE and equipment where there is potential for dust settlement and transfer on clothing. • Filter change out methodology of vacuums and dust extraction units must be established to reduce the risk of secondary exposure (wet wipe, RPE, gooseneck and double bag/use).
<p>PPE</p>	<p>Respiratory protective equipment is required where higher level controls are not available and / OR when the risk profile of the task remains high. Mandatory RPE tasks include the following:</p> <ul style="list-style-type: none"> • Jackhammering and manual pile break back • Use of chisel head tools on concrete • Scabbling • Mixing cement / concrete • Emptying dust extraction units and vacuum filters • Profiling pavements and kerbs <p>In accordance with Australian standard 1715:2009 the following masks when fitted correctly provide the following protection factors.</p> <ul style="list-style-type: none"> • Up to 10 - fitted P2 disposable masks and half face respirators with a P2 or P3 filter

Hierarchy	Controls
	<ul style="list-style-type: none"> Up to 50 – P2 filter in a full-face respirator, PAPR with any head covering <p>As most tasks will have higher levels of control in place it is reasonable to expect that P2 disposable masks and half face respirators will provide appropriate levels of protection if worn correctly and the user is clean shaven within the requirements of AS1715.</p> <p>PAPR with P3 for high / extreme concentrations when higher level controls are not viable and a risk of exposure is present to the worker at levels over the workplace exposure limit (e.g. demolition works within confined space).</p> <p>Dust coveralls such as tyveks are to be used for tasks where there is a reasonable likelihood of dust or slurry settling on the workers clothes e.g. jackhammering, shotcreting.</p> <p>Boot scrubbers are to be used to clean boots off prior to entry into office and crib areas.</p>