Consultation RIS: Managing the risks of respirable crystalline silica at work

Office of Industrial Relations (OIR) submission

September 2022

The Queensland Government has been the leading jurisdiction in Australia in addressing the risk of workers developing occupational dust diseases, including exposure to respirable crystalline silica (RCS). Queensland's approach on dust lung diseases, including silicosis, has included:

- introduction of the *Managing respirable crystalline silica dust exposure in the stone benchtop industry Code of Practice 2019* (the Stone Benchtop Code);
- a proactive, industry wide audit campaign of all known stone benchtop fabrication businesses across the State;
- development of a code of practice to manage the risk of exposure to RCS in construction work and the manufacturing of construction elements (the Silica in Construction Code);
- preparation of a guideline to support medical practitioners assessing workers with significant exposure to RCS from engineered stone;
- WorkCover Queensland's provision of practical support to workers affected by occupational dust diseases, including navigation through the workers' compensation process;
- the establishment of the Queensland Notifiable Dust Lung Disease Register, for the purpose of monitoring and analysing the incidence of notifiable dust lung disease in Queensland, and to enable information about notifiable dust lung diseases to be exchanged with Queensland state entities;
- commissioning of a $5 million international research project from 2021 to 2024 for medical research to improve the health and wellbeing of workers suffering from occupational dust lung disease, with more than $3 million of research grants awarded to research projects into screening methods, and early detection, prevention and progression of silicosis, coal workers pneumoconiosis (black lung), and other mineral dust-related lung diseases; and
- submissions to the three consultation phases of the National Dust Disease Taskforce (NDDT) – the final report included a specific Queensland case study that recognised the Queensland Government's efforts to address RCS.

The Office of Industrial Relations (OIR) welcomes the work that Safe Work Australia have undertaken to develop a Consultation RIS regarding the proposed policy options to provide workers with the highest levels of protection from the risks associated with tasks that generate RCS in the engineered stone benchtop industry – as supported in the All-of-Government's Response to the NDDT Final Report.

OIR also welcomes the recognition in the Consultation RIS that exposure to RCS is a risk associated with work activities involving the processing of natural stone, not just engineered stone. This is why Queensland has been sure to include RCS-generating activities involving all materials with significant crystalline silica content in the scope of our approach to tackling silicosis.

As outlined in each of the Queensland Government's previous submissions to the NDDT, the Queensland Government has been undertaking planned and deliberate actions to address the risk of workers developing illness due to occupational dust exposure.

This submission provides an update on the work of OIR, specifically in relation to:

- findings from the Stage 3 state-wide compliance audit of all 158 (known) stone fabrication workplaces in Queensland, assessing against the requirements of the *Managing RCS dust exposure in the stone benchtop industry Code of Practice 2019* (the Stone Benchtop Code);

- the development of the *Managing RCS dust exposure in construction and the manufacturing of construction elements Code of Practice* (the Silica in Construction Code) to protect workers in both the construction industry and manufacturing workplaces that produce common construction materials containing crystalline silica; and
- the Queensland Government's $5 million research grant for medical research in key areas including determining the efficacy and sensitivity of methods for early diagnosis, prevention and progression of disease, and treatment options such as the use of antifibrotic medications, pulmonary rehabilitation, whole lung lavage and other developing treatments.

The submission also advises on how the approved codes of practice in Queensland (specifically, the Stone Benchtop Code and the proposed Silica in Construction Code) are examples of government action to reduce workplace exposure to RCS by raising awareness of silica related risks, giving duty holders clarity on how to comply with Queensland's WHS legislation, and providing targeted regulation of specific key industries which present the greatest risk of RCS exposure to workers.

Update – Respirable Crystalline Silica Stage 3 Campaign

OIR has undertaken three targeted compliance campaigns (referred to as stage 1–3) to ensure occupational exposure to RCS is eliminated or minimised as per the requirements of the *Work Health and Safety Act 2011* (the WHS Act).

The stage 1 campaign, undertaken in 2017, was a pilot audit of 10 workplaces in the south-east Queensland region. The goal of the campaign was to identify fabrication work processes, assessing the effectiveness of existing exposure controls and measurement of workers' exposure to airborne RCS. The campaign identified unsafe practices such as uncontrolled dry cutting of stone, poor dust control measures, lack of respiratory protective equipment (RPE) and a lack of appropriate health monitoring of workers.

RCS exposure monitoring results indicated workers were at significant risk to their health and safety.

Stage 2 was undertaken in 2018, auditing 138 engineered stone benchtop fabricators state-wide. The audits focussed on enforcing the use of suitable engineering controls, RPE, and worker health monitoring. The campaign again identified unsafe working practices including dry cutting, in addition to poor housekeeping practices, inadequate selection and use of RPE and failure to provide health monitoring. Six hundred and eighty (680) enforcement notices were issued during the campaign, with five hundred and fifty-two (552) issued for matters directly related to RCS.

Between August 2020 and May 2021, 44 Work Health and Safety Queensland inspectors undertook the Stage 3 state-wide compliance audit of all 158 (known) stone benchtop fabrication workplaces. Workplaces were assessed against the requirements of the Stone Benchtop Code, which commenced on 31 October 2019.

Inspectors completed 233 site visits, resulting in 368 enforcement actions securing improved controls and therefore reducing the risk associated with exposure to silica.

In addition to identifying improved compliance in workplaces, the Stage 3 audit campaign also identified that the minimum safety standards and additional requirements introduced by the Stone Benchtop Code resulted in more specific non-compliances being detected and actioned by inspectors. These included addressing specific failures on the provision of powered air-purifying respirators and the inadequate use of water suppression as a dust control measure, as well as specific issues related to the quality of air monitoring and health monitoring attendance.

OIR is reviewing the findings of the campaigns to identify monitoring and non-regulatory options to drive further industry compliance with the Code.

Development of the *Managing respirable crystalline silica dust exposure in construction and the manufacturing of construction elements Code of Practice* (Silica in Construction Code)

During the development of the Stone Benchtop Code, OIR and stakeholders identified the significant risk of exposure to RCS for construction workers, noting the crystalline silica content of many common construction materials and the significant number of work activities in construction that involve high-energy processing of those materials.

In January 2020, OIR engaged Associate Professor Sue Reed, Edith Cowan University, to undertake a technical review of relevant occupational health and hygiene literature concerning construction tasks that generate high levels of respirable crystalline silica. This technical literature review was completed in April 2020, and its findings confirmed the extent of RCS in the construction industry and the effectiveness of engineering control measures at reducing exposure levels below the nationally agreed workplace exposure standard for silica dust.

The information provided in this technical literature review provided an evidence base upon which the proposed Silica in Construction Code could be developed.

OIR has been engaged in an extensive period of consultation to develop the code of practice. This process involved establishing and chairing a stakeholder steering group consisting of representatives of unions (Construction, Forestry, Maritime, Mining and Energy Union, the Electrical Trades Union, the Australian Workers' Union, the Australian Manufacturing Workers' Union and the Plumbing and Pipe Trades Employees Union QLD/NT), industry associations (Master Builders Queensland, the Housing Industry Association, the Civil Contractors Federation Queensland, the Australian Industry Group, Cement Concrete and Aggregates Australia, and Multiplex); occupational hygienists (the Australian Institute of Occupational Hygienists); and other sector partners (AusSafe Consultants Pty Ltd, and Construction Skills Queensland). A reference group of interested parties were invited to provide additional input at key stages in the development of the code of practice.

The steering group met seven times between March 2020 and November 2021 to make key decisions and finalise the code.

The code of practice has been designed to apply to construction work, as defined in section 289 of Queensland's *Work Health and Safety Regulation 2011* (WHS Regulation), and the manufacturing of elements for use in construction work. The scope is focused on materials that contain 1% or more crystalline silica content, and work practices that are likely to generate RCS or more RCS airborne.

The purpose of the code of practice is to provide clarity and certainty for duty holders about their obligations to eliminate or minimise risks associated with RCS, by establishing minimum, enforceable standards on the use of effective higher order controls to prevent RCS from being generated or made airborne, with requirements on the use of appropriate RPE linked to whether the nationally agreed workplace exposure standard for RCS has been exceeded.

The code of practice will also clearly outline when health monitoring must be provided, and when air monitoring must be conducted at the workplace, in accordance with the relevant provisions of Queensland's WHS legislation.

OIR is currently finalising the code of practice, and it is expected to be approved and released in late 2022.

Queensland Government's $5 million research grant for medical research on occupational dust lung disease

OIR is overseeing a commitment to provide $5 million of grant funding for medical research to improve the health, wellbeing, and treatment options for Queensland workers with occupational dust lung disease, particularly silicosis and coal workers' pneumoconiosis (CWP).

The grant is aimed at providing funding to researchers to pursue medical research which must support one or more of the following areas which will benefit Queensland workers with occupational dust lung diseases:

- understanding the pathogenesis of silicosis (including accelerated silicosis) and CWP;
- identifying factors to determine disease severity and risk of disease progression (linked to ability to return to work); and
- determining the efficacy and sensitivity of methods for early diagnosis, prevention and progression of disease including anti-fibrotic medications, pulmonary rehabilitation, whole lung lavage and other developing treatments.

To date, over $3 million of the grant funding has been allocated for the purposes of medical research. The three successful recipients are:

- University of Queensland with the University of New South Wales ($827,345) to examine the pathogenesis of CWP and silicosis, including considering exposure scenarios to determine disease severity and progression;
- University of Queensland with the University of Illinois, Chicago ($1,551,165) to analyse existing government data to help identify factors in how CWP and silicosis develop and progress, including evaluation of early indicators of disease showing in pathology (e.g. chest imaging and lung function testing); and
- Wesley Dust Disease Research Centre (i-Med Queensland) ($781,944) for an investigation to compare screening of ILO CXRs to low dose HRCT for Queensland workers with a greater than 10-year history of occupational dust exposure.

The remaining funds will be allocated through a second-round tender process.

Queensland's approved codes of practice

Under section 26A of Queensland's *Work Health and Safety Act 2011* (WHS Act), duty holders must comply with an approved code of practice or follow another method, such as a technical or industry standard, if it provides an equivalent or higher standard of work health and safety than the standard required in the code of practice. This means that, once approved, a code of practice sets enforceable minimum standards that relevant duty holders must meet to ensure the risks of exposure to RCS are minimised for workers.

Codes of practice are admissible in court proceedings under the WHS Act and the WHS Regulation. Courts may regard a code of practice as evidence of what is known about a hazard, risk or control and may rely on the code in determining what is reasonably practicable in the circumstances to which the code relates.

An inspector may refer to an approved code of practice when issuing an improvement notice. This may include issuing an improvement notice for failure to comply with a code of practice where equivalent or higher standards of work health and safety have not been demonstrated.

The Queensland Stone Benchtop Code applies to all fabrication or processing, including processing during installation, maintenance and removal, of engineered and natural stone benchtops, and associated activities such as clean-up or maintenance of equipment as it relates to RCS.

The Queensland Stone Benchtop Code clarifies the existing requirements of Queensland's WHS legislation for all duty holders, and specifies the standard of health and safety that must be met in order to achieve compliance with legislative duties. This includes (but is not limited to):

- specific dust suppression and minimisation controls that must be used;
- minimum requirements for RPE to be used by stone benchtop fabricators, and those undertaking associated activities (i.e. cleaning and maintenance);
- requirements for air monitoring to be undertaken at specified intervals to check the effectiveness of the controls (with air monitoring reports to be made available to an inspector);
- investigation of any exceedances of the workplace exposure standard (and documentation detailing any corrective measures); and
- requirements for health monitoring at set points and intervals, with adverse reports requiring review and revision of controls and notification to the WHS regulator.

The Queensland Stone Benchtop Code also requires the development of a written RCS dust control plan, to cover (but not limited to):

- the percentage of crystalline silica content of the product/s being used;
- all sources of RCS (wet or dry) relevant to that workplace;
- details of the dust (wet or dry) controls to be implemented for each activity, following the hierarchy of controls;
- how air monitoring will be used to assess whether the controls are working;
- systems for routine inspections, maintenance and monitoring of controls and equipment to ensure they are clean and functioning effectively;
- ongoing monitoring and review strategies, particularly in response to incidents, control failure, or exposure standard exceedances; and
- communication of risks and controls, exceedances and reporting mechanisms.

The proposed Queensland Silica in Construction Code has been similarly designed to provide duty holders in construction work—as defined in section 289 of the WHS Regulation—and the manufacturing of construction elements with clarity on how the existing legislative requirements apply to their work, with minimum enforceable standards of health and safety in relation to specific matters. This includes (but is not limited to):

- the use of higher order controls (including water suppression and local exhaust ventilation) for specific construction and manufacturing tasks;
- minimum requirements for use of respiratory RPE, based on the identified effectiveness of the higher order controls in use for the task;
- minimum requirements on the selection of appropriate RPE, fit-testing, and storage and maintenance of RPE.
- clarity for duty holders on air monitoring requirements (with air monitoring reports to be made available to an inspector); and
- requirements for health monitoring at specific trigger points, based on clearly defined level of exposure risk, with adverse reports requiring review and revision of controls and notification to the WHS regulator.

The proposed Queensland Silica in Construction Code will also clarify that any construction work that includes a risk of exposure to RCS is high risk construction work, according to section 291(l) of the WHS Regulation (as it is carried out in an area that may have a contaminated atmosphere), and consequently the application of existing requirements regarding the preparation of a safe work method statement (SWMS) before high-risk

construction work is undertaken. In relation to the manufacturing of construction materials at a location other than a construction site, the Code will also require that the PCBU develop a written RCS dust control plan, or incorporate the required information (that is comparable to that outlined in the Queensland Stone Benchtop Code) in an existing risk management document.

The Code will also summarise the duties that exist in relation to information, training, instruction and supervision, consultation with workers, importers and suppliers of silica-containing materials, and other duty holders where a shared duty exists (i.e. labour hire).