



Changes to Occupational Exposure Limits – Coal

An occupational exposure limit (OEL) is an airborne concentration of a particular substance or mixture that must not be exceeded. When comparing concentrations measured during a sampling period to the OEL, it is important to note that these limits do not represent an acceptable exposure level for workers, instead they are simply the maximum upper limit imposed by Legislation.

In 2018, Safe Work Australia (SWA) developed their methodology and announced that the current list of OELs were being reviewed. In 2019, work health and safety Ministers agreed on the revised OELs for respirable crystalline silica (RCS) and respirable coal dust (RCD). These new OELs reflect the most relevant scientific data or comparable exposure standards from international jurisdictions and were arrived at through the nationally agreed methodology. Both the agreed methodology and the revised levels have been the subject of extensive consultation and feedback processes conducted by SWA. The Queensland Government has committed to adopting the updated, scientifically determined OELs as published by SWA into Queensland mining safety and health regulation.

Some of the following questions and answers may assist your site to understand what these changes may mean and how to prepare.

1. When are the OELs for RCS and RCD reducing?

As of 1st September 2020 the:

- Respirable Crystalline Silica TWA OEL will reduce from 0.1 mg/m³ to **0.05 mg/m³**.
- Respirable Coal Dust TWA OEL will reduce from 2.5 mg/m³ to **1.5 mg/m³**.

2. Why are the OELs reducing?

Mine dust lung diseases (MDLD), such as coal workers' pneumoconiosis and silicosis, are caused by exposure to respirable dust over time. Mine workers exposed to respirable coal dust (RCD) and respirable crystalline silica (RCS) at levels that exceed accepted OEL are potentially at risk of developing occupational lung diseases.

3. What Legislation will be amended?

In addition to amendments to Section 89 of the Coal Mining Safety and Health Regulation, the Coal Inspectorate realises that Recognised Standard 14 (RS14) also needs to be reviewed to ensure that it remains relevant and achievable. This will involve engaging a number of relevant stakeholders to contribute.

4. When will Recognised Standard 14 be reviewed and finalised?

The review of Recognised Standard 14 is scheduled to commence in September 2020 with a view to providing a final draft by no later than November 2020.

5. What will be the major impacts for sites as a result of the revised OELs?

There will be impacts experienced across all Queensland coal mines when it comes to ongoing monitoring and review of RCS and RCD exposures.

- Currently, in accordance with RS14, SEG exposure assessments are undertaken by comparing the 95% UCL against the shift adjusted OEL.
 - The Coal Inspectorate RSHQ, currently assess compliance by comparing the SEG average and/or Minimum Variance Unbiased Estimate (MVUE) against the shift adjusted OEL.
- As per Section 5.6.2 of RS14, the ratio of exposure is calculated using the SEG Average ÷ OEL (shift adjusted). As a result of the reduced OELs, this will therefore likely increase the number of samples

- required and subsequent sampling frequencies.
- As a flow on from the increased sample numbers and the combined effect with the reduction of OELs, there is expected to be an increase in the number of single exceedances measured and reported, until further control measures are implemented by mines.

6. How will this affect ongoing periodic monitoring programs?

All monitoring programs developed in line with the current RS14 will remain active until 31st December 2020. This will allow time for sites and their hygienists to revise and develop their new monitoring program going into 2021.

As of 1st January 2021, new programs that align with the revised OELs shall commence across all coal mines.

It should be noted that sites should consider whether their baseline monitoring should be revisited. Each case should be assessed on the individual circumstances that exist at the site, but as a guide, monitoring program's established on baseline assessments undertaken more than 2 – 3 years ago should consider review of the baseline.

7. The new revised OELs come into effect mid-way through a reporting quarter, what does this mean?

As sites will continue with their existing programs until the end of 2020, the remaining quarters (Q3 and Q4 of 2020) are to be reported and submitted in comparison to the previous OEL values (those in effect prior to September 1, 2020). This will also assist in reviewing and comparing all 2020 data against the same OEL. As follows:

- 2020 Quarter 3 (1 Jul – 30 Sept) data is due for submission **by 1 November 2020**.
- 2020 Quarter 4 (1 Oct – 31 Dec) data is due for submission **by 1 February 2021**.

Data submissions from Quarter 1, 2021 shall compare all monitoring data against the revised respirable coal dust and respirable crystalline silica OELs of 1.5 mg/m³ and 0.05 mg/m³ respectively.

A reminder of reporting due by dates is provided below:

SAMPLING QUARTER:	Quarter 1	Quarter 2	Quarter 3	Quarter 4
DATE RANGE:	1 Jan to 31 Mar	1 Apr to 30 Jun	1 Jul to 30 Sept	1 Oct to 31 Dec
SUBMISSION DUE BY:	1 May	1 August	1 November	1 February

8. How will the OEL change impact single exceedance reporting?

Up until 31 December 2020, the single exceedances notification process as detailed in Section 89A of the Coal Mining Safety and Health Regulation 2017, will continue to apply to personal dust monitoring results that exceed previous OEL values (those in effect prior to September 1, 2020).

During this transitional period (September – December 2020), sites should consider reviewing and investigating exposures that exceed the revised OELs.

As of 1st January 2021, all sample results shall be compared against the revised OELs, thereby notifying the Mines Inspectorate of results that exceed the RCD and RCS OELs of 1.5 mg/m³ and 0.05 mg/m³ (shift adjusted) respectively.

9. How will this affect historical data?

There is no impact on historical exposure data collected and provided by Queensland coal mines. For the purposes of industry trending and review, the RSHQ Coal Inspectorate may compare historical data against the new OELs.

10. What about changes to other OELs recommended by Safe Work Australia (SWA)?

The Hazardous Chemical Information System (HCIS) maintained by SWA currently provides exposure standard details for 680 hazardous chemicals. SWA are in the final stages of reviewing and recommending revised OEL values for public consultation. While respirable coal dust and RCS have been given priority, there are other chemicals found in substances or naturally occurring in Queensland mines that sites should be aware of. These include but are not limited to mine gases, solvents, adhesives, resins and components of exhaust outputs. Following on from the public consultation, an agreed OEL will be adopted by SWA and it is then up to each state regulator to decide whether or not these changes will be adopted into state legislation.

11. Where can I get more information?

More information regarding the revised OELs can be found:

- SWA Workplace Exposure Standard Review
 - <https://engage.swa.gov.au/workplace-exposure-standards-review>
 - <https://www.safeworkaustralia.gov.au/workplace-exposure-standards-review-methodology>
 - <https://engage.swa.gov.au/wes-review-release-1-RCS-RCD>
 - [Draft evaluation report respirable crystalline silica \(PDF\)](#)
 - [Draft evaluation report respirable coal dust \(PDF\)](#)
 - [Revised workplace exposure standards for respirable crystalline silica and respirable coal dust](#)
 - [Current implementation dates for RCS](#)