Coal Services

Public consultation WHS (MPS) Regulation 2014 Review

Comments from Coal Service – Occupational Hygiene

Schedule 6 Sampling and analysis of airborne dust

Part 1 Preliminary

2. Sampling and analysis – general requirements (page 145)

Modify 2(2): minimum sampling period to be changed from *"at least 5 hours"* to *a minimum of 80% of shift duration.*

Purpose of change:

Given the shift lengths and roster arrangements that are now common across all NSW coal operations, 5-hour sampling durations often do not ensure an exposure sample that is representative of that worker's shift.

Changing to a minimum of 80% of shift duration could easily be applied to any shift length or roster pattern that is being deployed both currently and in the future. It would also ensure exposure results are representative of the activities worked on that shift and more accurately capture any operator task rotation practices.

This would be consistent with guidance provided by the NSW Resources Regulator Airborne Contaminants Principal Hazard Management Plan Guide which states that "The sampling takes place over a full shift, or a representative sample thereof"

Modify 2(8): *Analysis of the level of respirable quartz in airborne dust is required only in respect of one sample taken in an area at a particular time* changed to – *Analysis of the level of respirable quartz is required for each respirable dust sample.*

Purpose of change:

The current requirement to only analyse one respirable dust sample taken in an area at a particular time (one sample out five) for respirable quartz creates several issues including:

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- Compliance or non-compliance to the respirable quartz WES is unable to be confirmed for the four workers whose samples aren't analysed per test

- Historically the sample selected for analysis is that deemed to be the highest risk in relation to quartz exposure. This results in a positive bias when analysing respirable quartz data to determine average exposure and WES exceedance rates.

The requirement to have all respirable dust samples analysed for respirable quartz would remove both identified issues.

Part 2 Underground coal mines-sampling

5. Area where cement products being applied (page 146)

Modify 5(3): Replace current statement with *Samples of respirable dust are required to be taken at least once every 6 months.*

Purpose of change:

Spraying and grouting activities make up most tasks where cement products are applied in an underground coal mine. These tasks are common place in all our modern NSW coal operations and are often an essential component of installing ventilation control devices (VCDs) and installing primary and secondary roof support.

Many of the products used during these activities can contain respirable quartz and this may be identified in the Safety Data Sheets (SDS). The current requirement to only sample for inhalable dust does not identify the risk of exposure to these workers to respirable quartz.

The requirement to take samples once every six months would ensure that an exposure profile for respirable dust and quartz could be generated for these tasks and be used to identify effective control strategies if required.

Part 3 Other coal mines-sampling

Modify Part 3 title: Surface coal mines - sampling

7. Other Areas (page 147)

Replace 7(1-3): Replace section 7 Other areas with sections 7, 8 and 9 outlined below.

7) Surface Drill and Blast area

(1) Samples are to be taken in each part of a coal mine where drilling and blasting activities are carried out, including from the breathing zone of at least 5 persons including, so far as is reasonably practicable—

(a) 2 persons completing shotfirer tasks, and

(b) 2 persons operating drills, and

(c) a person exposed to airborne dust.

(2) Samples of respirable dust are to be taken at least once every 6 months.

(3) Samples of inhalable dust are to be taken at least once every 12 months.

(4) In the case of a mine at which there is more than one crew or shift, samples must be taken at the frequency specified in subclauses (2) and (3) in respect of each crew or shift.

8) Surface Mobile Equipment and Maintenance

(1) Samples are to be taken in each part of a coal mine where mobile equipment and maintenance activities are carried out, including from the breathing zone of at least 5 persons including, so far as is reasonably practicable—

(a) 3 persons operating mobile equipment, and

(b) 2 persons completing maintenance activities, and

(2) Samples of respirable dust are to be taken at least once every 12 months.

(3) Samples of inhalable dust are to be taken at least once every 12 months.

(4) In the case of a mine at which there is more than one crew or shift, samples must be taken at the frequency specified in subclauses (2) in respect of each crew or shift.

9) Coal Handling Preparation and Mobile Crushing Plant

(1) Samples are to be taken in each part of a coal mine where coal handling preparation and mobile crushing plant activities are carried out, including from the breathing zone of at least 5 persons including, so far as is reasonably practicable—

(a) 5 persons working in or around coal handling facilities or mobile crushing plant

(2) Samples of respirable dust and samples of inhalable dust are to be taken at least once every 12 months

Purpose of change:

There is significant difference in the airborne dust sampling required at open cut operations compared to underground operations. Since the reidentification of occupational lung disease in the Australian coal industry in May 2015, multiple cases of disease have been identified where the affected worker has had a career in surface coal operations only. A recent case series on Queensland coal miners published by the Wesley Dust Disease Research Centre found that of the 79 coal industry workers with confirmed Coal Mine Dust Lung Disease (CMDLD) involved in the study, 26.7% had worked in open cut mines only. The current Schedule 6 requirement for respirable dust and quartz sampling is inadequate to effectively assess exposure risk as it only requires one sampling shift on one crew per year.

A recent Coal Services Health and Safety Trust Project titled – NSW Surface Coal Mining: Exposure Assessment for Respirable Dust and Respirable Crystalline Silica reviewed exposure monitoring data collected over a two-year period from January 2017. The suggested changes in monitoring requirements for surface operations have been made based on findings in this study and the Wesley Dust Disease Research Centre study.

Key working areas and tasks identified for additional monitoring include:

Surface Drill and Blast Area workers

The Coal Services Health and Safety Trust Project confirmed that surface operators conducting activities on and around the drill and blast bench are at increased risk of respirable dust and respirable quartz exposure. In this study 7.4% of drillers and 4.3% of blast crew workers exceeded the workplace exposure standard for respirable quartz. The dust that is generated from drill and blast activities is typically from overburden rock with significant quartz content. These activities are often conducted 24/7 across multiple crews. The more robust sampling frequency proposed is a measured and evidence-based schedule that will cover all drill and blast crews at all operations.

Surface Mobile Equipment and Maintenance

Surface Mobile Equipment and Maintenance would capture activities other than Drill and Blast. The reduced sampling frequency for respirable dust and quartz, compared to Drill and Blast, reflects the reduced exposure risk of these tasks. Sampling once per year across each crew provides an improvement in capturing a data set that is spread across a range of conditions and shifts, rather than a single shift per year.

Coal Handling Preparation and Mobile Crushing Plant

Coal Handling Preparation Plants (CHPPs) are not currently specifically identified in Schedule 6. These plants typically operate 24/7 and employ thousands of NSW workers. Areas and tasks in and around CHPPs have the potential to expose workers to unacceptable levels of airborne dust if not adequately controlled. Mobile Crushing Plants, that are often used to crush rock for products such as road base and stemming, have often been found to be generating excessive amount of quartz containing airborne dust. This activity, if inadequately controlled, can pose a significant health risk to workers involved and around the crushing area. A CHPP worker was identified in the Wesley Dust Disease Research Centre study with confirmed Coal Mine Dust Lung Disease (CMDLD).