Coal Services

Industry Forum

# Airborne Contaminants and Health Surveillance

# Industry Forum Agenda

Coal Services

| | |
|---|---|
| 1 | Session 1 – Standing Committee on Airborne Contaminants and Occupational Hygiene |
| 2 | Morning Tea |
| 3 | Session 2 – Coal Services Health |
| 4 | Panel Discussion |
| 5 | Lunch |

# Agenda – Session 1

Coal Services

1. Standing Dust Committee Overview
2. Resources Regulator Update
3. 2023 Order 42 airborne dust results and trends
4. Diesel particulate matter and weld fume results and trends
5. 2023 example exceedances and learnings
6. Control considerations and learnings

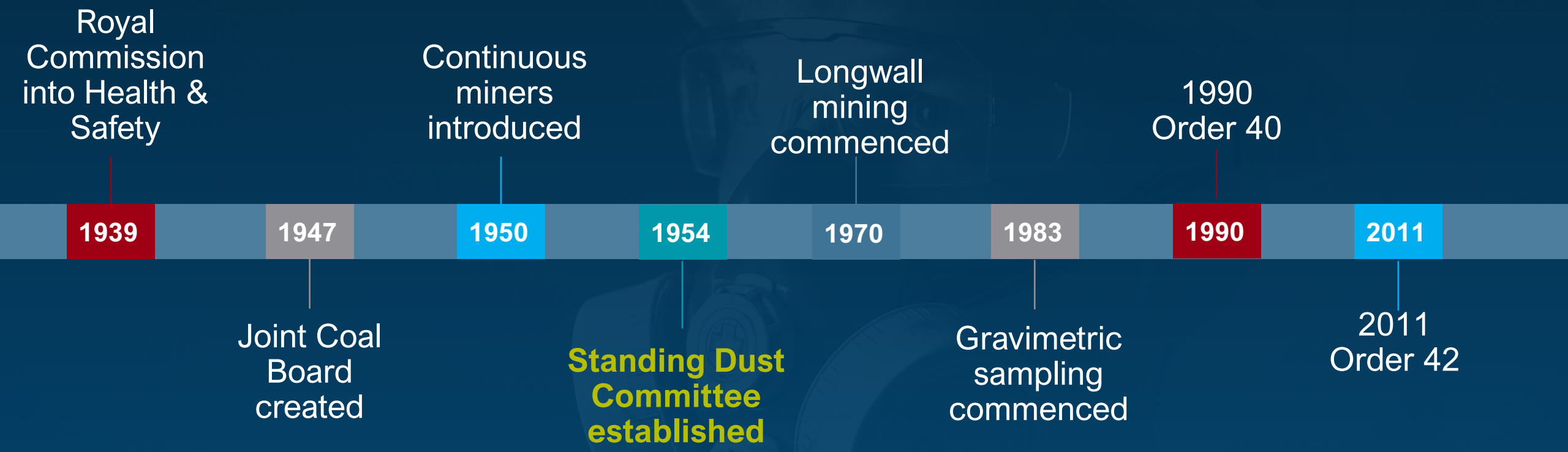
Coal Services

# Standing Committee on Airborne Contaminants and Occupational Hygiene

# (Standing Dust Committee)

# Standing Dust Committee origins and overview

Coal Services



# Standing Committee on Airborne Contaminants and Occupational Hygiene

Coal Services

## Current industry representatives

| | |
|---|---|
| Chair: | Lucas Boyne |
| Deputy Chair: | Scott McNally |
| Secretary: | Ricki Hainzer |
| NSW Resources Regulator: | Anthony Margetts, Karen Tripp, vacant |
| NSW Minerals Council: | Frank Fulham, James Barben |
| Mining and Energy Union: | Steve Barrett, Tony Watson |
| Mine Managers Association Australia: | Greg Shields, Roger Biddle |
| Independents: | Rob Regan, Peter Knott |
| Coal Services (Hygiene): | Dr Kerrie Burton |
| Coal Services (Health): | Dr David Meredith |
| Coal Services (Technical): | Alaster Wylie |

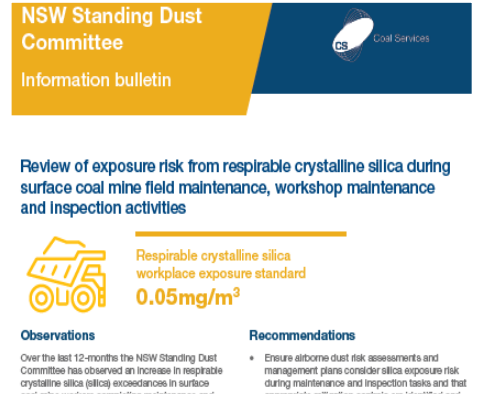
# Standing Committee on Airborne Contaminants and Occupational Hygiene

Coal Services

Exposure Results and Hazard Trends

Health Trends

Exposure Control and Research




Information and Education

Resources Regulator
Department of Regional NSW

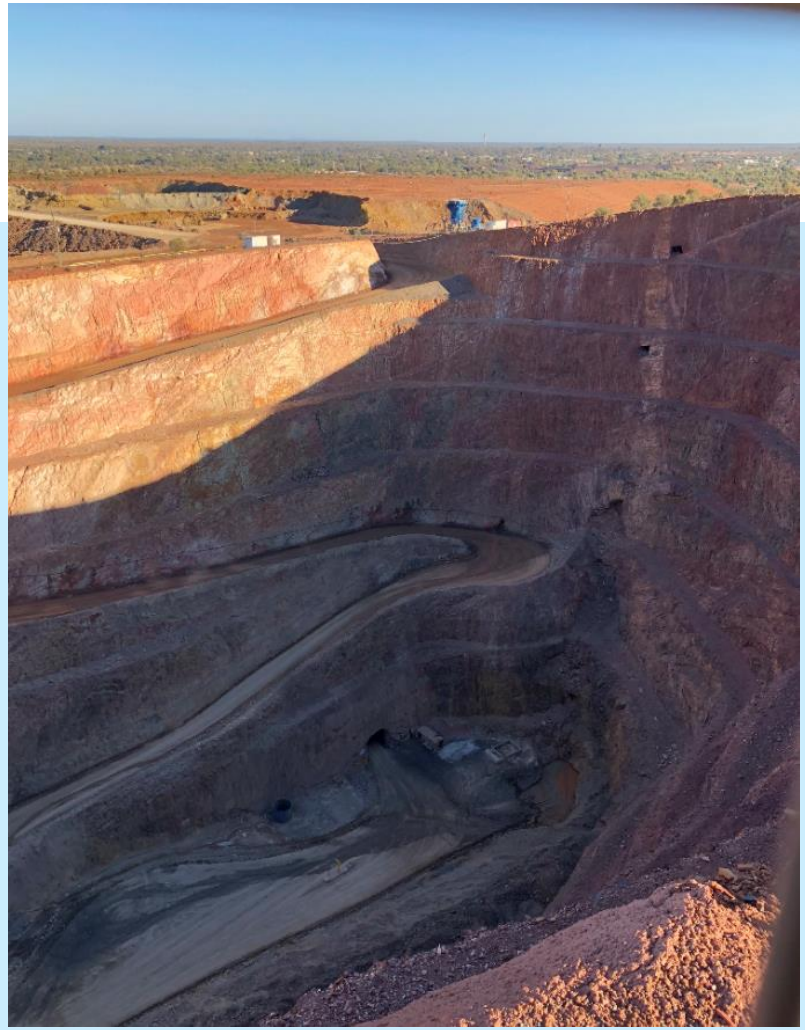
# Airborne Contaminants Update

## Standing Dust Committee Forum

Karen Tripp
Senior Mine Safety Officer – Occupational Hygiene

June 2024

# Airborne Contaminants Update



## Section 1

SWA Workplace Exposure Standard amendment

New AS/NZS 1715 Ruling regarding facial hair

New Fit Testing Standard AS/NZS ISO 16975.3:2023

Facial Hair and Respiratory Protective Equipment Fact Sheet

## Section 2

Welding Fume & Silica Exposure Standard Reductions

Amendments to Model WHS Regulations from Sept 2024

New Exposure Limits for Dec 2026

Technical Reference Guides

# 1

# Respiratory Protective Equipment, Facial Hair, and Fit-Testing

# SWA Workplace Exposure Standard revision – January 2024

A revised version of the SWA Workplace Exposure Standards for Airborne Contaminants was published in January 2024

The following statement was included in section 2.5 as guidance to the use of respiratory protective equipment (RPE) and compliance with the WES:

> Regulation 49 of the WHS Regulations requires a PCBU ensure that no person at the workplace is exposed to a substance or mixture in an airborne concentration that exceeds the exposure standard for the substance or mixture. The protection provided by respiratory protective equipment (RPE) worn by a person can be taken into account when determining compliance with regulation 49, provided all reasonably practicable higher order controls in the hierarchy of controls have been implemented, and that the RPE is worn correctly.

In Summary:

- A PCBU must ensure a worker is not exposed to airborne contaminant levels greater than the WES.
- Respiratory protection CAN be taken into account when determining compliance with exposure standards, IF:
    - The RPE is worn correctly, AND
    - All reasonably practicable higher order controls in the hierarchy of controls have been implemented.

**Regulator position – any measured exceedance must still be reported.**

# New AS/NZS 1715 Ruling regarding facial hair

Standards Australia have released a ruling document in relation to AS/NZS 1715:2009 Selection, use and maintenance of respiratory protective equipment. This ruling provides further clarification around the requirements for tight-fitting respirators and facial hair.

## The ruling states:

- Facial hair can interfere with the sealing surface area for all tight-fitting respiratory protective equipment, including tight fitting PAPR.
- Facial hair will prevent a good seal.
- Individuals with facial hair between the respirator sealing surface and the skin should not wear a respirator which requires a facial seal.
- No one who requires respiratory protection shall wear a full or half facepiece respirators over a beard (including tight-fitting PAPR).
- There are no exemptions in AS/NZS 1715:2009 to allow for facial hair within the sealing area of the facemask.
- Fit-testing of tight-fitting RPE must be done under negative pressure.


# New AS/NZS 1715 Ruling regarding facial hair

## Tight-Fitting vs Loose Fitting PAPR


Requires fit-testing at negative pressure
(i.e. in non- operational mode)


Fit-testing not required

# New Fit-Testing Standard

Standards Australia have adopted the international standard for respiratory fit testing (AS/NZS ISO 16975.3:2023)

The new standard includes:

- Guidance on conducting fit-testing on tight-fitting respirators and PAPR.
- Fit-testing accreditation competencies, procedures, interpretation of results and record keeping.

RESP-FIT
RESPIRATOR FIT TESTING TRAINING & ACCREDITATION | AN AIOH PROGRAM

www.respfit.org.au

RESP-FIT is a national RPE fit-testing training and accreditation program to ensure the competency of fit testers against the new AS/NZS ISO standard.

Comprehensive list of fit-testing service providers and training providers.

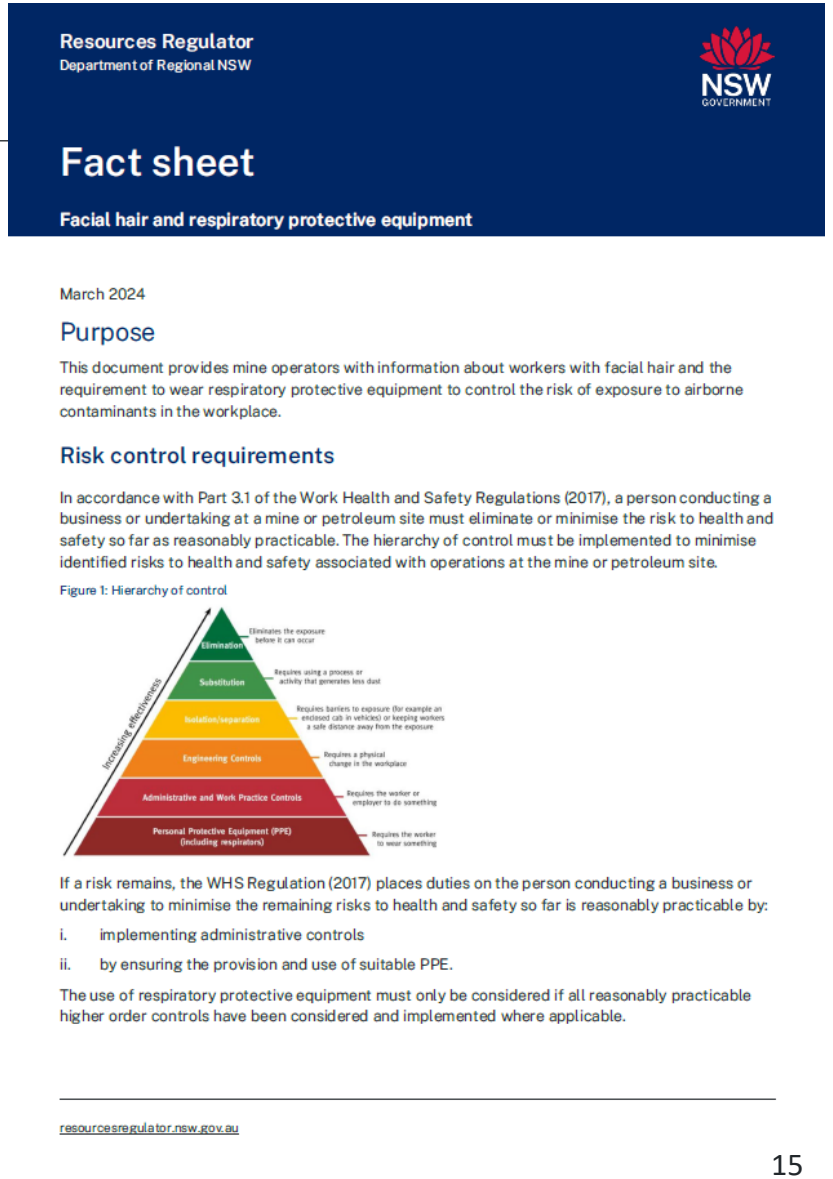
# Fact Sheet – Facial Hair and RPE

The Regular has recently published a Fact Sheet explaining the requirements for respiratory protective equipment with regard to facial hair.

The Fact Sheet details:

- PCBU Risk control requirements
- Facial fit of respirators
- Facial hair and adequate performance of RPE
- Workers not able/refusing to remove facial hair
- Relevant legislation and standards

Available on the RR website.



Resources Regulator
Department of Regional NSW

Fact sheet

Facial hair and respiratory protective equipment

March 2024

## Purpose

This document provides mine operators with information about workers with facial hair and the requirement to wear respiratory protective equipment to control the risk of exposure to airborne contaminants in the workplace.

## Risk control requirements

In accordance with Part 3.1 of the Work Health and Safety Regulations (2017), a person conducting a business or undertaking at a mine or petroleum site must eliminate or minimise the risk to health and safety so far as reasonably practicable. The hierarchy of control must be implemented to minimise identified risks to health and safety associated with operations at the mine or petroleum site.

Figure 1: Hierarchy of control



If a risk remains, the WHS Regulation (2017) places duties on the person conducting a business or undertaking to minimise the remaining risks to health and safety so far is reasonably practicable by:

i. implementing administrative controls
ii. by ensuring the provision and use of suitable PPE.

The use of respiratory protective equipment must only be considered if all reasonably practicable higher order controls have been considered and implemented where applicable.

resourcesregulator.nsw.gov.au

# 2

# Workplace Exposure Standard Reductions & Model WHS Reg Updates

# Welding Fume WES Reduction

**SWA announced the reduction of the WES for Welding Fume in January 2024**

- Workplace Exposure Standard reduced from 5 mg/m$^3$ to 1 mg/m$^3$ for welding fume not otherwise classified.
- No transition period provided by SWA.
- RR will take and educational and informative approach to help PCBU with compliance.
- PCBU's should revise their risk management process for welding activities.

# Proposed Silica WES Reduction

**SWA announced the potential further reduction of the WES for respirable crystalline silica**

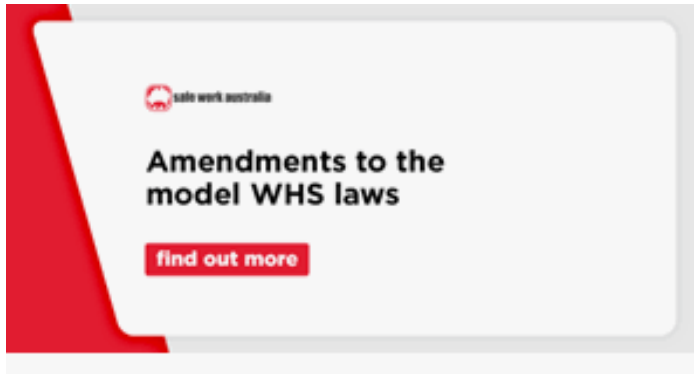
- Workplace Exposure Standard is currently 0.05 mg/m$^3$
- Recommendations made for a further reduction to 0.025 mg/m$^3$ (with a 3-year transition period)
- No date for proposed reduction at present
- Reduction will need to consider the ability of current measurement technologies in terms of limit of detection and measurement uncertainty.
- Ban on use of engineered stone due to come into effect on 1 July 2024.

# Model WHS Regulation Update

**An amendment to the WHS Regulations will be implemented on 1 September 2024.**

- Crystalline Silica Substances (CSS) will be defined as any material containing at least 1% crystalline silica.
- New duty for the “processing” of CSS to be controlled. The term processing includes use of roadheaders, quarrying and mechanical screening.
- The process of ‘control’ aligns with the WHS (MPS) Regs requirement for an Air Quality PHMP, Risk Assessment and use of Hierarchy of Control.
- Duty to provide ‘*approved*’ training for workers performing high risk CSS work.
- Use of Respiratory Protective Equipment as a ‘control’ must comply with the respiratory protective device standards AS/NZS 1716 and AS/NZS 1715, which essentially means…..

**if RPE is used as a control it must be Fit-Tested and workers are required to be <u>clean shaven</u> when wearing tight-fitting respirators.**




STANDARDS Australia

AS/NZS 1715:2009 Rul 1:2023

Ruling to AS/NZS 1715:2009 Selection, use and maintenance of respiratory protective equipment

# WES's changing to WEL's

**In April 2024 SWA released the revised version of the Workplace Exposure Limits (WEL's), which will replace the current Workplace Exposure Standards.**

- New Workplace Exposure Limits will be adopted 1st December 2026.
- Guidance in relation to the transition will be published by SWA.
- Additional impact analysis occurring for a selection of 9 chemicals / substances before the WEL is updated (including silica).
- Still determining how to regulate 33 airborne contaminants that are non-threshold genotoxic carcinogens (NTGS's), that do not have a safe exposure limit.
- Any exposure limits prescribed in the WHS (MPS) Regulations will remain in place. This includes DPM and Carbon Dioxide gas limits.

# Technical Reference Guides

## Monitoring and Control of Worker Exposure to Airborne Contaminants

For Coal and Non-Coal, Underground and Large Surface mines

Adopts the same approach as Qld RSHQ recognised standards.

The document provides technical guidance on

- Personal exposure monitoring – sampling types (baseline, periodic, real time), establishing SEG's, statistical analysis and data review. Estimating exposure of SEG's and reporting of data.
- Control of worker exposure – control examples provided for specific activities and areas of mining; in addition to inspection and validation of controls.


Resources Regulator
Department of Regional NSW
Draft
Resources Regulator
Department of Regional NSW
Technical reference guide
Monitoring and control of worker exposure to airborne contaminants
All coal mines, non-coal underground mines and large surface mines
May 2024

# Technical Reference Guides

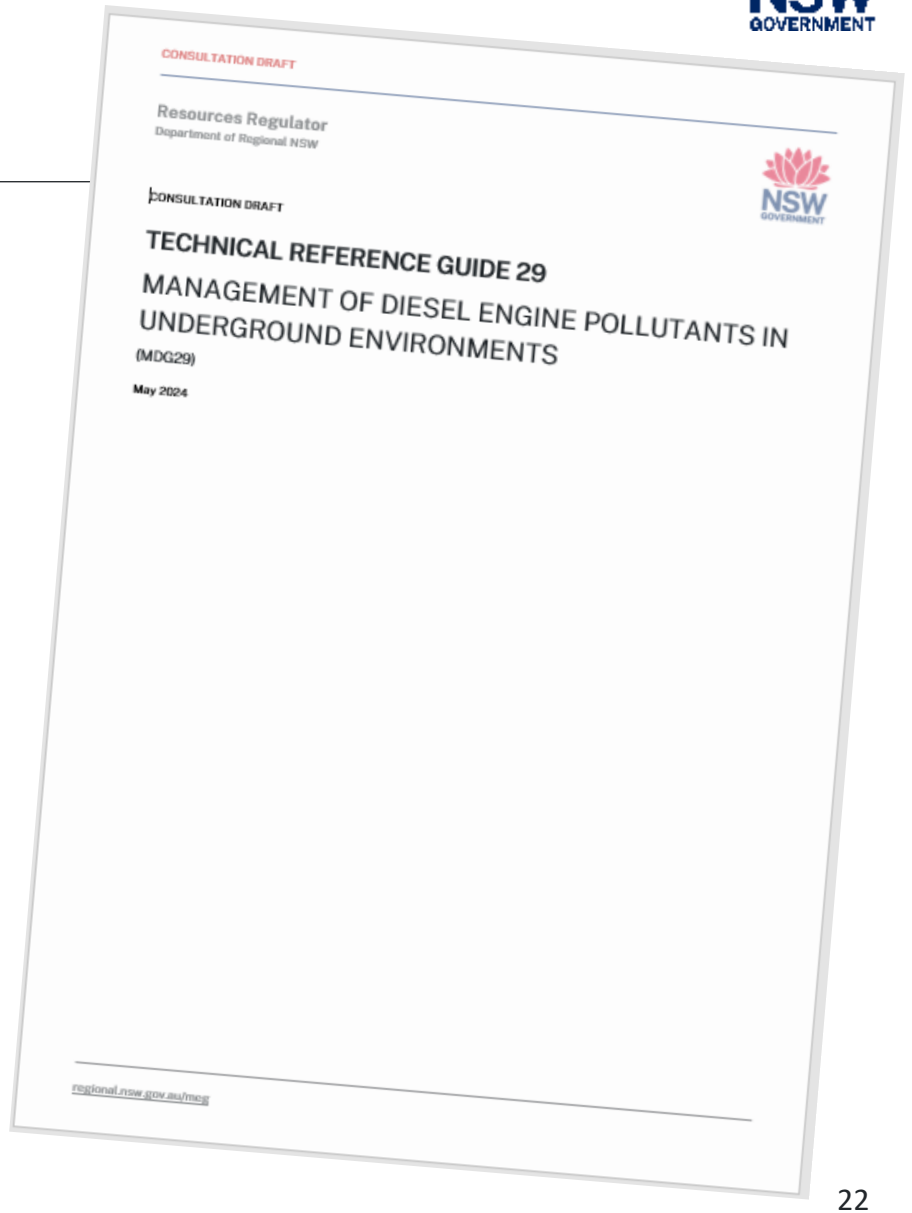
## Management of Diesel Engine Pollutants in Underground Environments – TRG29

For Coal and Non-Coal Underground mines

Revised version of the old MDG29

The document provides technical guidance on good industry practice for mitigating and minimising the risks associated with the pollutants emitted by diesel engines in underground mines.

- Management of risk and control of diesel pollutants.
- Vehicle testing requirements, methodology, equipment and standards.
- Personal exposure monitoring and methodology for DPM, noise, vibration and heat generated by diesel plant equipment.


CONSULTATION DRAFT

Resources Regulator
Department of Regional NSW

CONSULTATION DRAFT

TECHNICAL REFERENCE GUIDE 29

MANAGEMENT OF DIESEL ENGINE POLLUTANTS IN UNDERGROUND ENVIRONMENTS

(MDG29)

May 2024

regional.nsw.gov.au/meg

Coal Services

# 2023 Order 42

## Airborne dust monitoring results and weld fume / DPM data trends

# Presentation Outline

Coal Services

1. Order 42 / Schedule 6 monitoring
2. 2023 Order 42 monitoring results summary
3. Weld Fume and DPM – impact of WES Reduction and revised WEL
4. Key trends

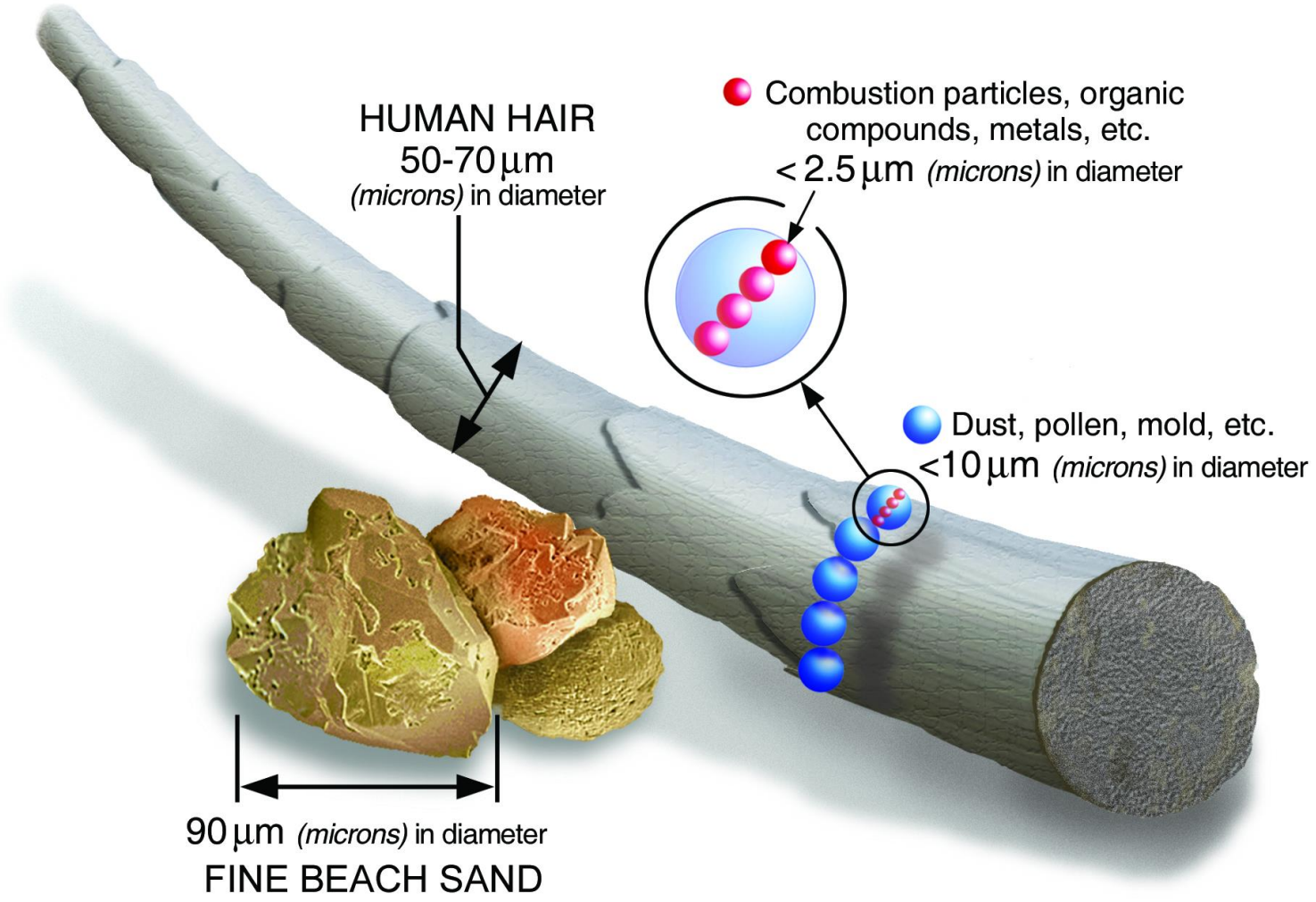
# Order 42 / Schedule 6 Airborne Dust Monitoring

Coal Services

| Monitoring type | Monitoring locations | Monitoring frequency |
| --- | --- | --- |
| • Respirable dust<br>• Respirable crystalline silica (RCS) (quartz)<br>• Inhalable dust | • Longwall<br>• Continuous miner<br>• Cement / outbye<br>• Open cut<br>• CHPP | • Number of shifts<br>• Freq period (6-12 months) |

# Respirable and Inhalable Dust Particle Size

Coal Services



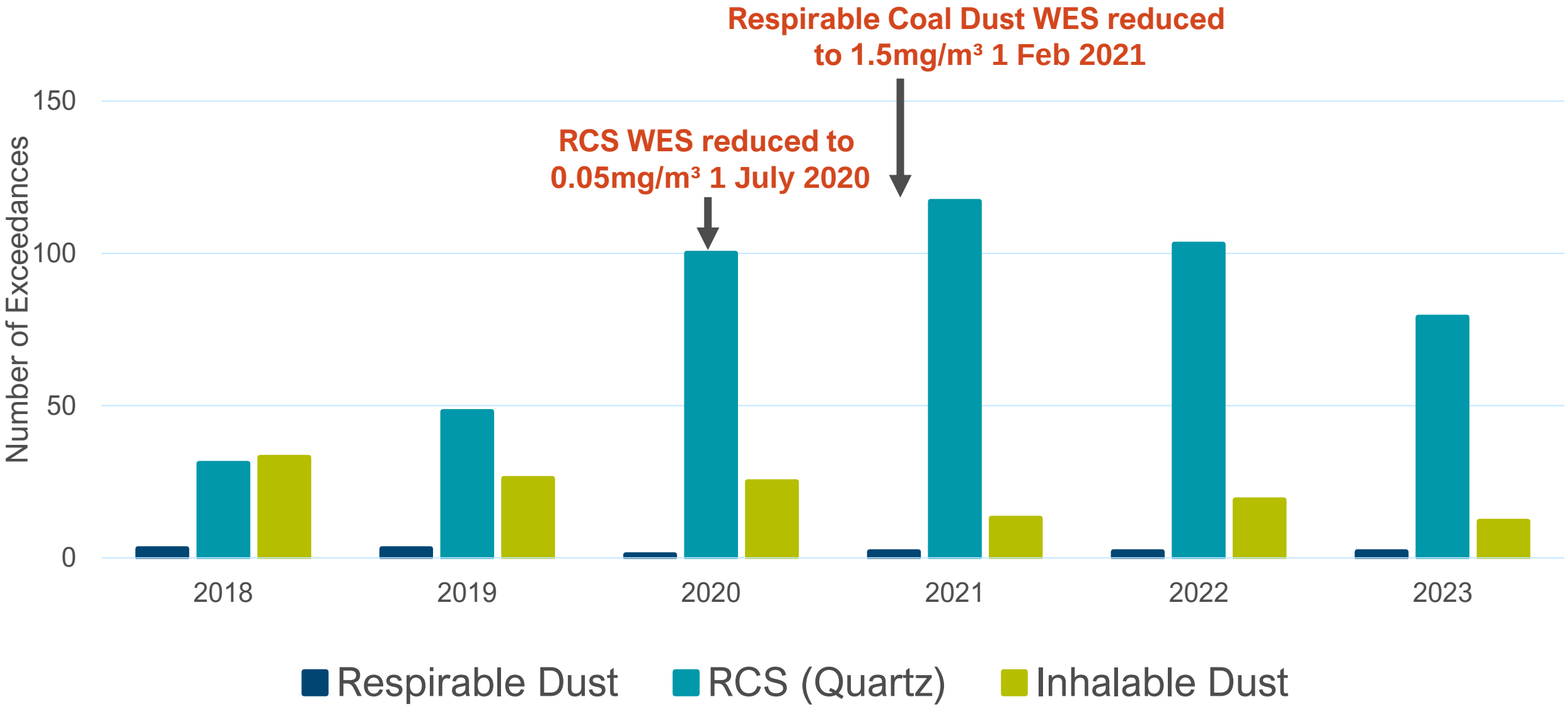

**Respirable Dust**
is <5-10µm

**Inhalable Dust**
is <100µm

Image source: United States Environmental Protection Agency
https://www.epa.gov/pm-pollution/particulate-matter-pm-basics

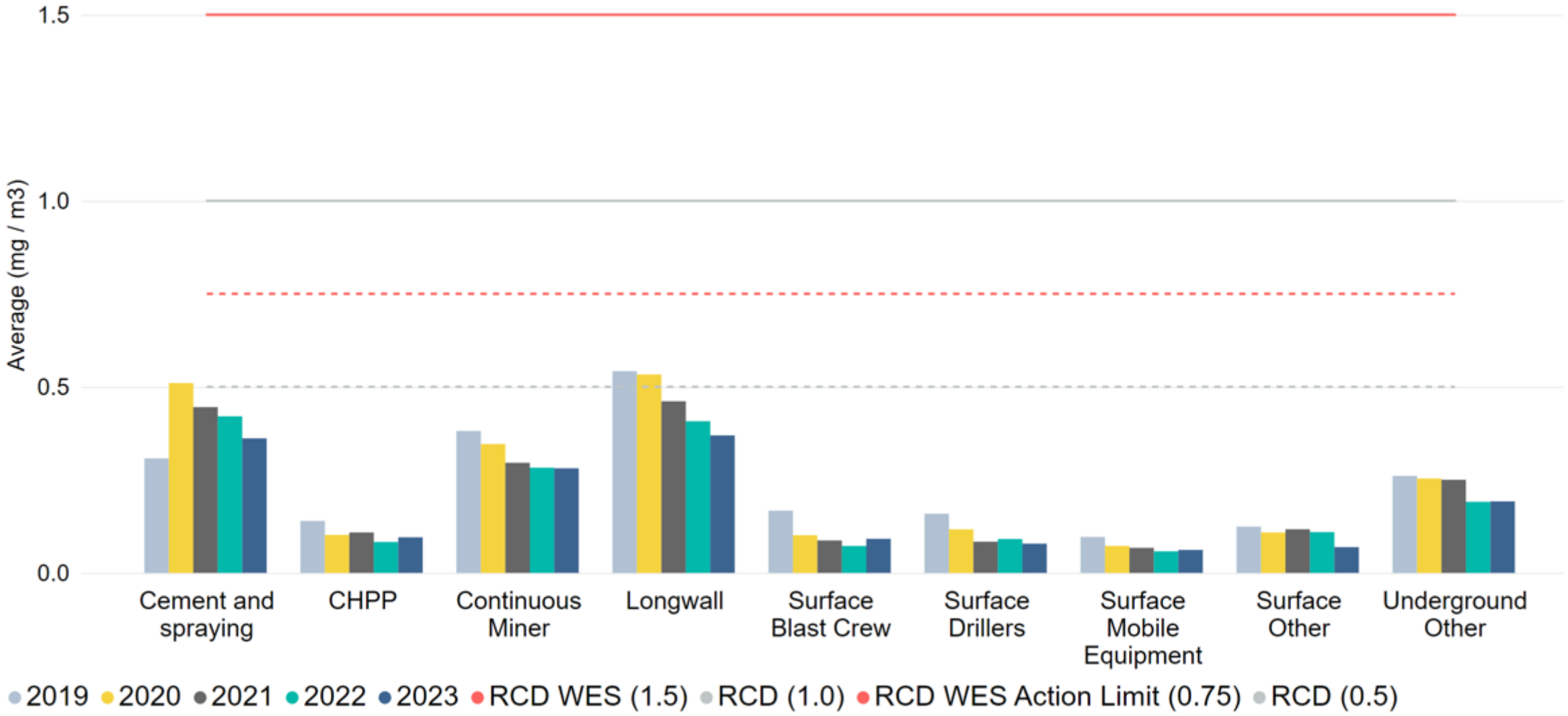
# Order 42 Airborne Dust Monitoring Exceedance Trends

Coal Services



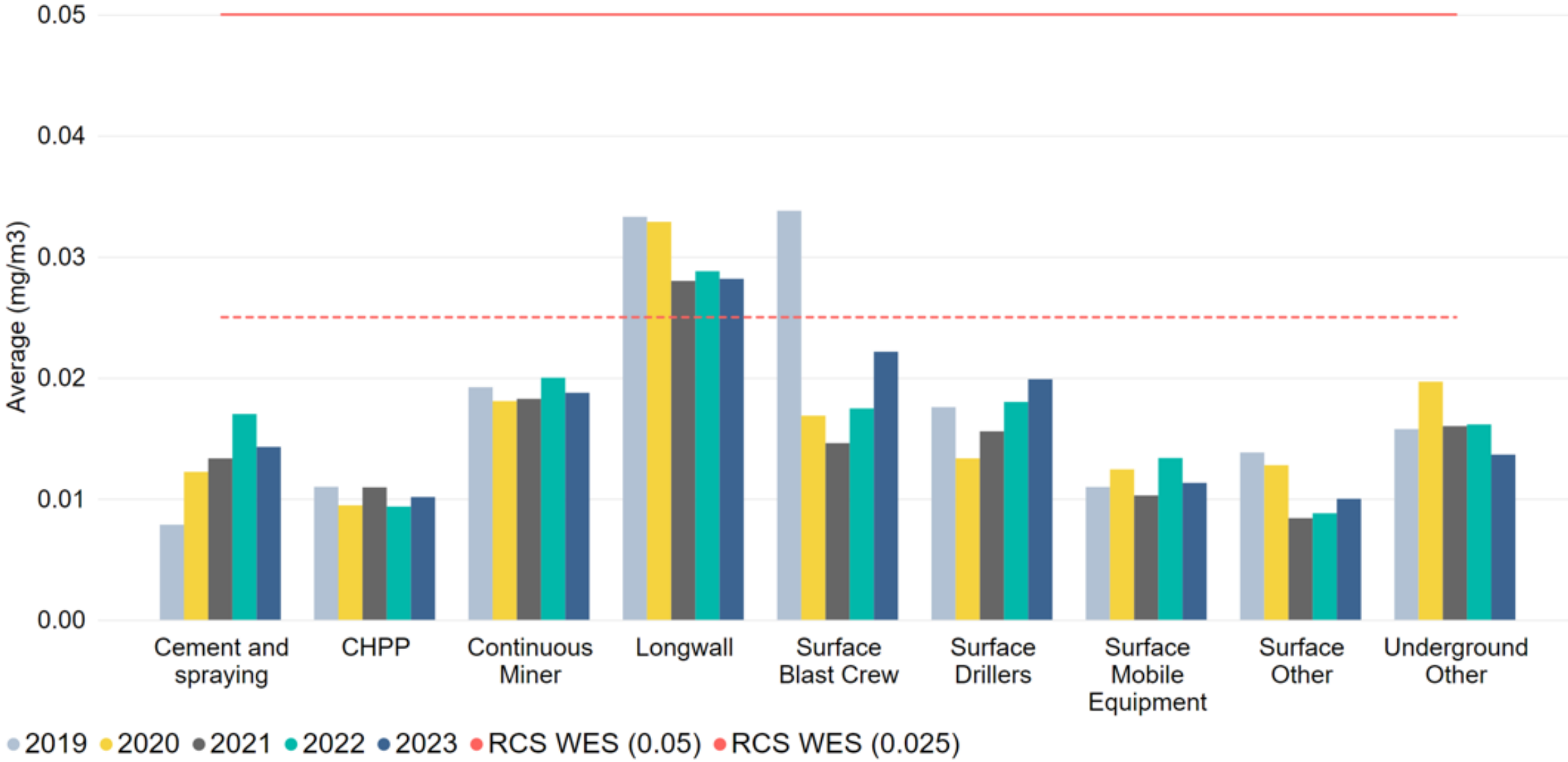
# 5 Year Average Respirable Dust Exposure

Coal Services



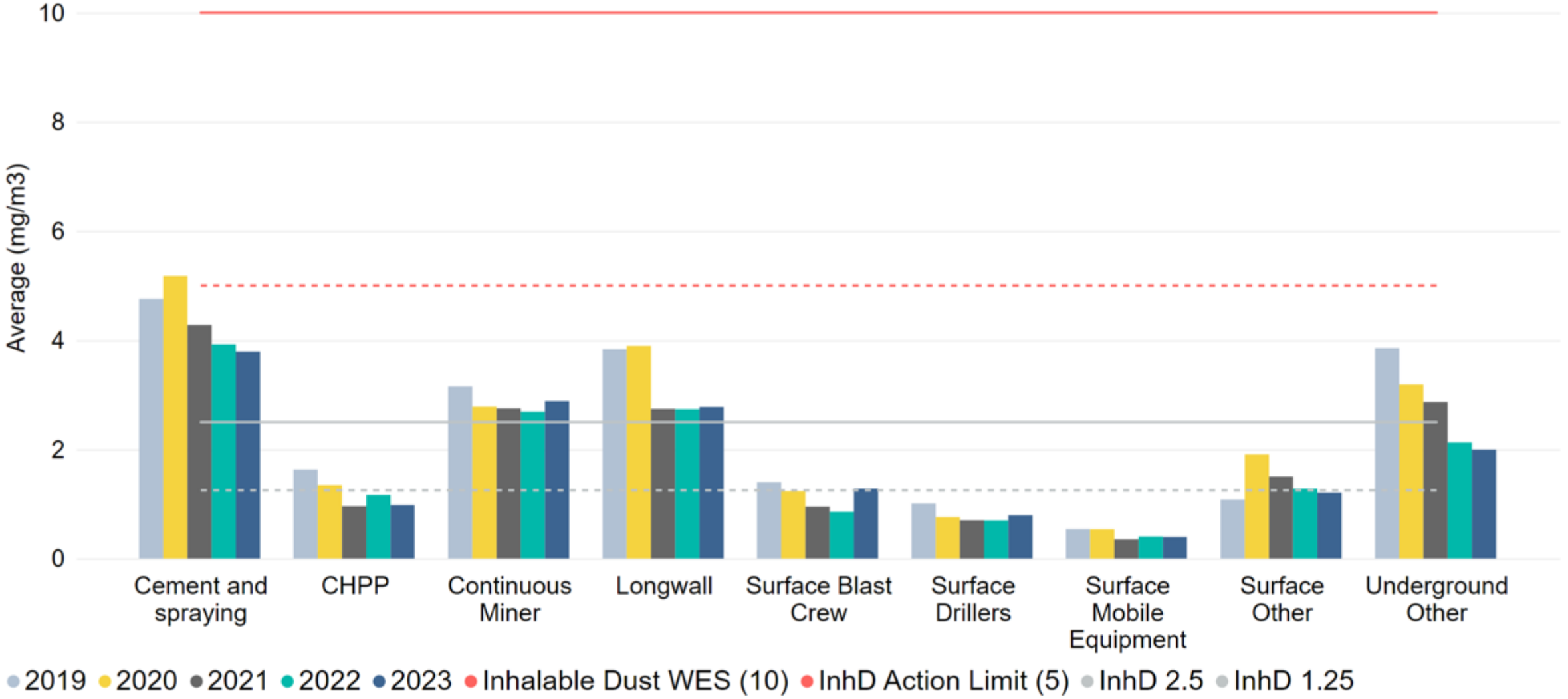
# 5 Year Average Respirable Quartz Exposure

Coal Services



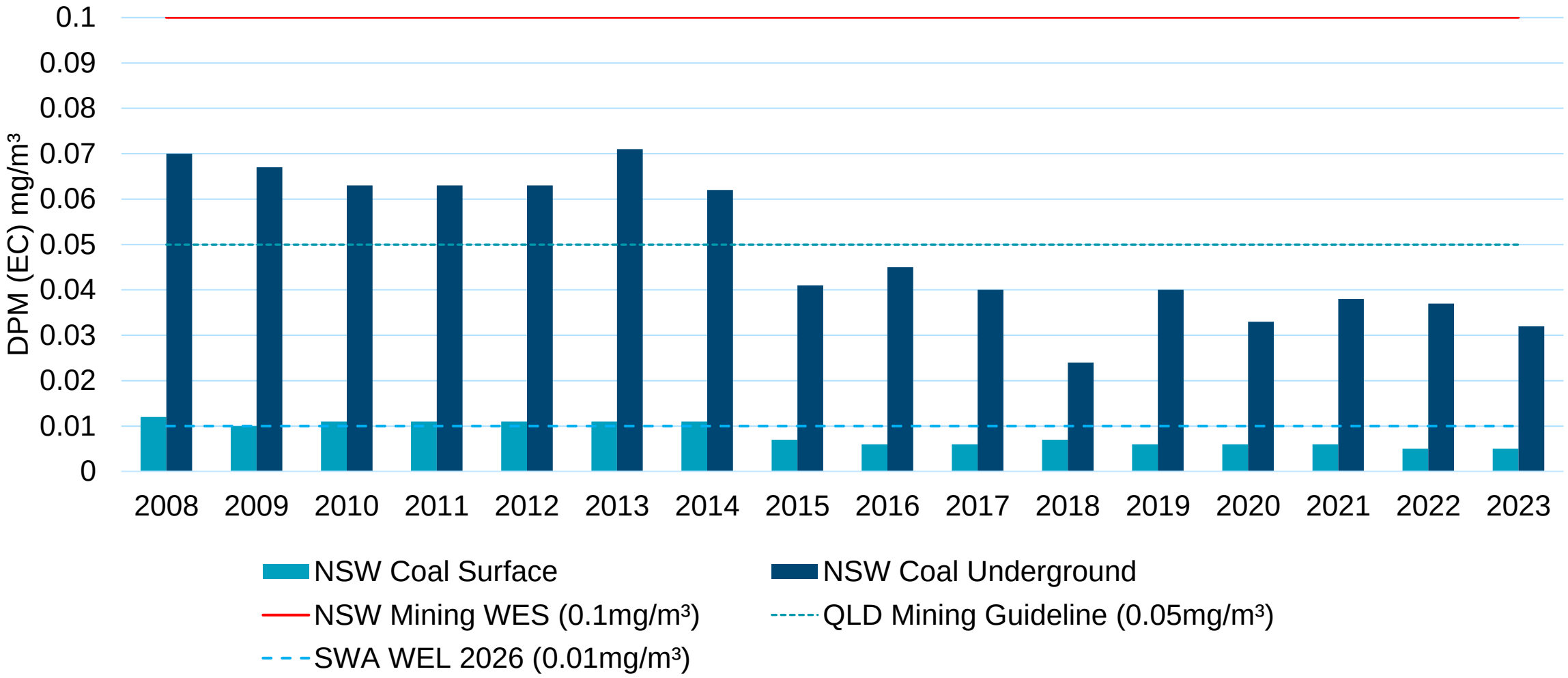
# 5 Year Average Inhalable Dust Exposure

Coal Services



# Average NSW Coal Mine DPM (EC) Exposure

## Coal Services 2008-2023



# DPM: 2022 - 2023 Coal Services Exceedance Results Comparison

## Revised Workplace Exposure Limit (SafeWork Australia)

Coal Services

| | Worker Exceedances | Underground Worker Exceedance Rate | Surface Worker Exceedance Rate |
|---|---|---|---|
| **Current WES 0.1mg/m³** | **37** | **4.4%** | **0.0%** |
| **SafeWork WEL 0.01mg/m³ From 1 December 2026** | **466** | **55.3%** | **1.0%** |

# Weld Fume: 2022 and 2023 Coal Services Exceedance Results Comparison

## Revised Workplace Exposure Standard (SafeWork Australia)

Coal Services

| | Worker Exceedances | Worker Exceedance Rate |
|---|---|---|
| **Previous WES 5.0mg/m³** | **32** | **23%** |
| **Revised WES 1.0mg/m³** From 18 January 2024 | **95** | **68%** |

# 2023 Monitoring Data – Key Trends

Coal Services

**Reductions in**

- Respirable crystalline silica and inhalable dust exceedances (respirable dust exceedance numbers remain low)

- DPM average exposures (measured as elemental carbon)

**Increases in**

- Respirable Crystalline Silica exposure levels and exceedance rates for surface drillers and blast crew

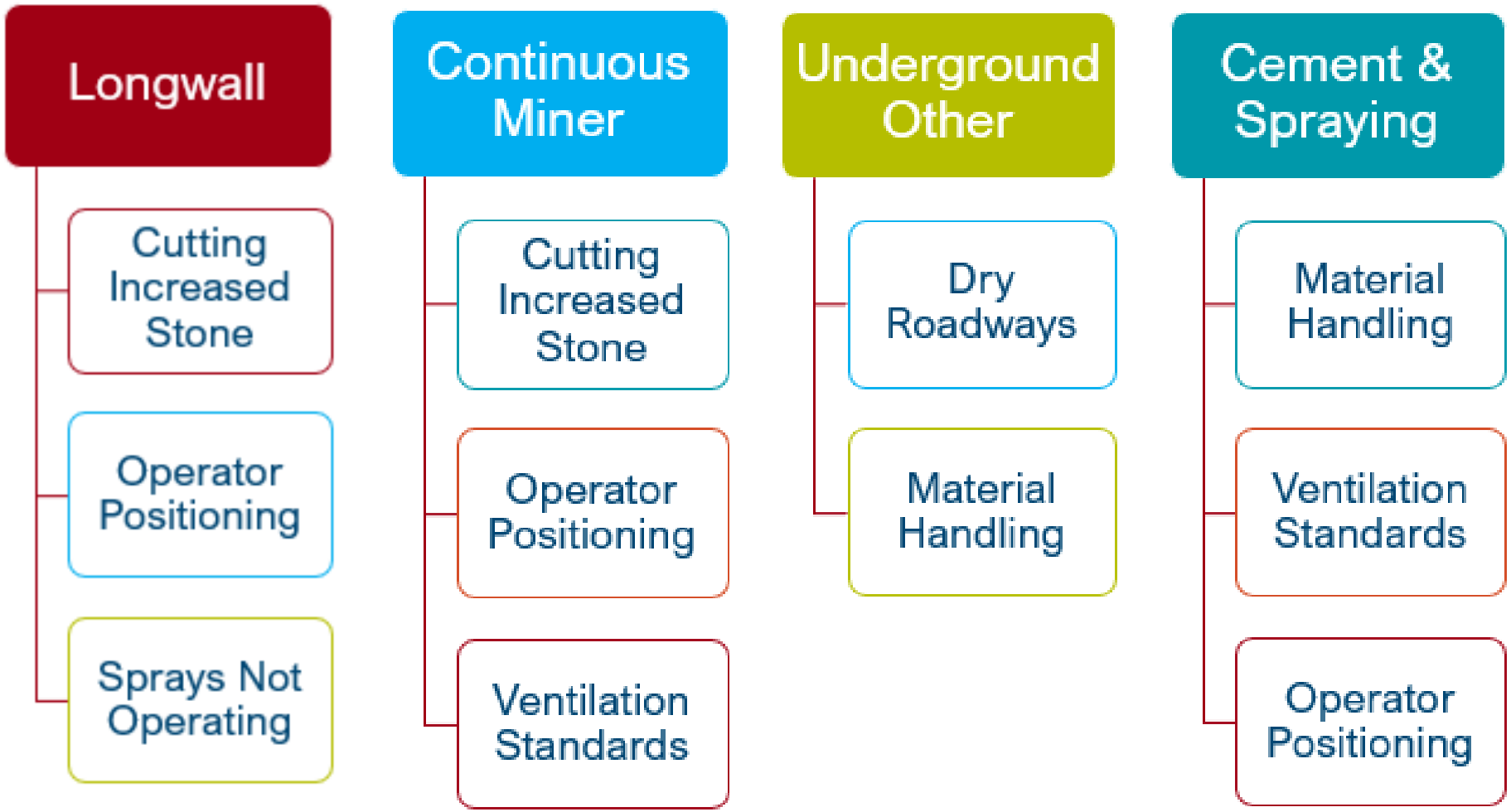
- Anticipated number of weld fume exceedances against revised WES, if additional controls not implemented

Coal Services

# Example Exceedances

# 2023 Order 42 Underground Dust Monitoring

## Exceedance Contributing Factors



# Order 42 UG Exceedances – Example 1

## Longwall Respirable Quartz Exceedances

Coal Services

### Test information

Longwall Operator completing face mapping, maingate and bootend tasks exceeded the respirable quartz WES with a result of 0.06mg/m³

### Exceedance contributing factors

- Task rotation procedure not followed
- Operator positioning procedure not followed

# Order 42 UG Exceedances – Example 1

## Longwall Respirable Quartz Exceedances

Coal Services

**Site actions**

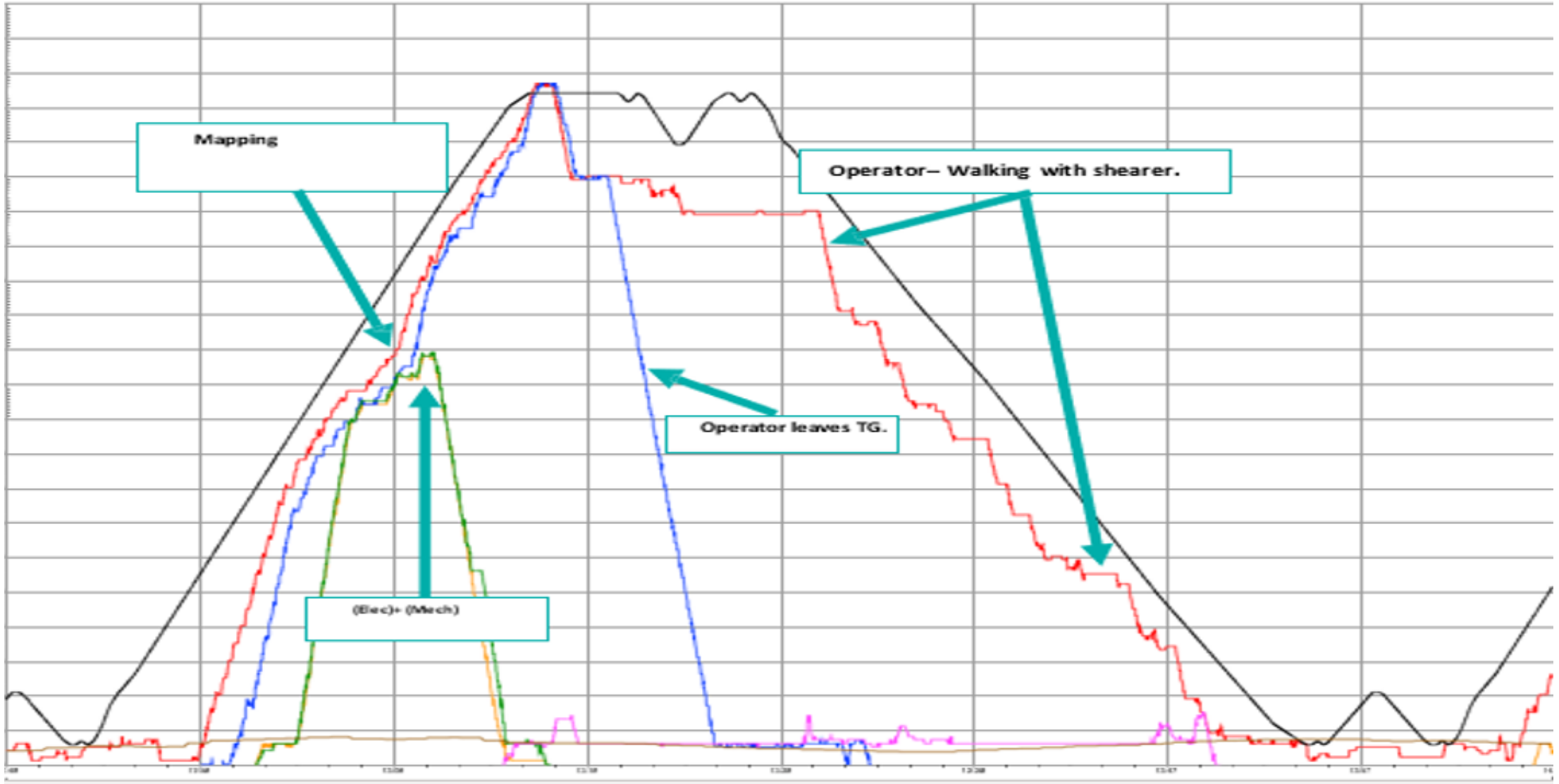
- Standardise face mapping method to alternate shears for every crew
- Amend and update procedures and worker training packages
- Design and trial proximity tag duration trigger (time on face) to display on Citec

**Exceedance re-sample outcome**

- Resample completed 2 face mappers 0.03mg/m³
- Similar production task rotation 6 shears each

# Operator Positions – LW Proximity Tag data

Coal Services



# 2023 Order 42 Surface Dust Monitoring
## Exceedance Contributing Factors

Coal Services

- **Shot Firers**
  - Insufficient use of water cart
  - Operator positioning
  - Dust generated by stemming truck
- **Blast Drillers**
  - Poor cab seals
  - No vacuum available in cab
  - Drill not washed down prior to maintenance
- **CHPP Lab Tech**
  - Inefficient local exhaust ventilation system
  - Use of compressed air to clean
- **Field Maintenance**
  - Poor workshop housekeeping
  - Equipment not washed down prior to maintenance
- **CHPP Maintenance**
  - Work area not washed down prior to maintenance

# Order 42 OC Exceedances – Example 1

## Blast Hole Driller Respirable Quartz Exceedance

Coal Services

### Test Information

A blast hole driller assisting in changing deck rubbers on a drill rig recorded a respirable quartz result of 0.07mg/m³.

### Exceedance Contributing Factors

- Dust settled on equipment becoming airborne during rubber removal
- Dry cleaning of cab (Dustpan and brush)

# Order 42 OC Exceedance – Example 1

## Blast Hole Driller Respirable Quartz Exceedance

Coal Services

**Site Actions**

- Vacuum cleaner in cab
- Create a SWP for changing out deck rubbers which includes dust reduction measures.
- Investigate installing a water tank with a pressurised hose on the drill
- Communication with workers to wash down the drill deck with a water cart as required.

**Exceedance Re-sample Outcome**

- Additional controls observed
- Resample recorded Respirable Quartz result of 0.01mg/m³

# Order 42 Exceedances – Example 2

## Blast Crew Respirable Quartz Exceedance

Coal Services

**Test Information**

3 shot firers loading shot and off siding stemming truck all elevated RCS including exceedance of 0.05mg/$m^3$ against shift adjusted WES 0.04mg/$m^3$

**Exceedance Contributing Factors**

- Hot/dry weather conditions
- Less than adequate dust suppression for conditions
- On-bench assessment assumed water suppression was not required

# Order 42 Exceedances – Example 2

## Blast Crew Respirable Quartz Exceedances

Coal Services

**Site Actions**

- Develop a visual indicator of on-bench dust conditions that require additional dust controls
- Conduct real-time dust monitoring and video capture
- Workforce education sessions

**Exceedance Re-sample Outcome**

- Cooler conditions - loading shot operator recorded Respirable Quartz result of 0.02mg/m³

Coal Services

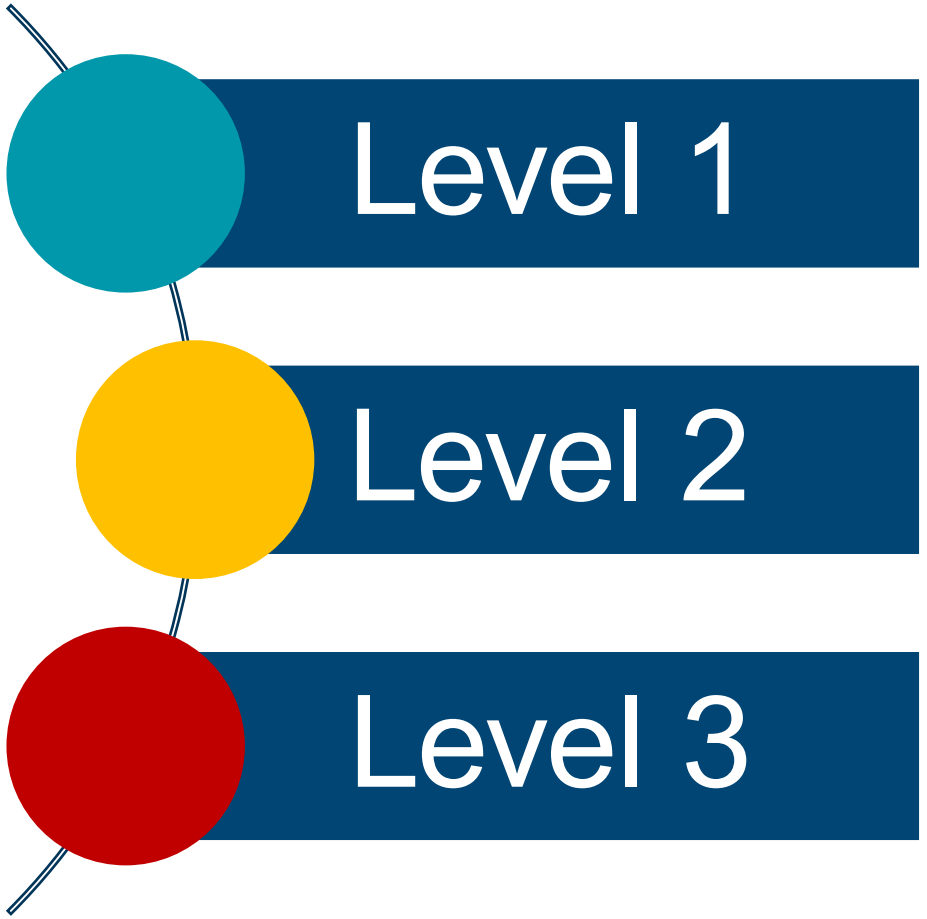
# Control Initiatives and Learnings

# Airborne Dust Control

## Respirable Crystalline Silica / Stone Focus in TARPS

Coal Services

- Increase in the use of airborne dust TARPs
- Have a plan for changing RCS (Quartz) Risk
- Ongoing review of RCS % in geology / worked material
- Use exposure data to inform thresholds
- Determine task rotation options to manage high risk tasks



# Airborne Dust Control
## Task rotation

Coal Services

Real time dust monitoring

Time based vs. production based

Investment in training

Collect sufficient data

Proximity detection technology

Compliance review / audit

# Airborne Dust Control
## Respiratory Protective Equipment (RPE)

Coal Services

**AS 1715 Respiratory Protective Equipment (RPE) Program**

1. Appoint Program Administrator
2. Selection of RPE
3. RPE Training
4. Issue of RPE
5. Fit Testing
6. Wearing of RPE
7. Maintenance
8. Record Keeping
9. Program Evaluation

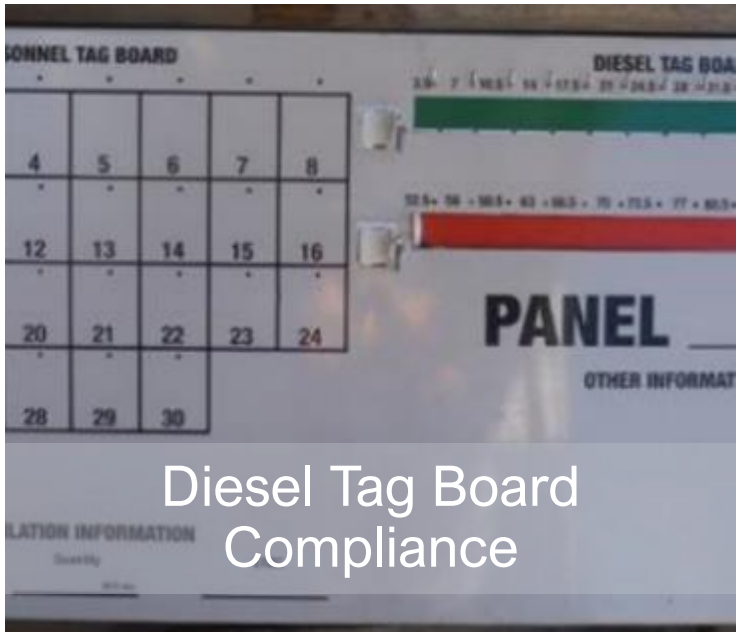
## Selection of RPE (2023)

- P2 Disposable most common RPE used
- Reduction in the use of PAPR

## Wearing of RPE (2023)

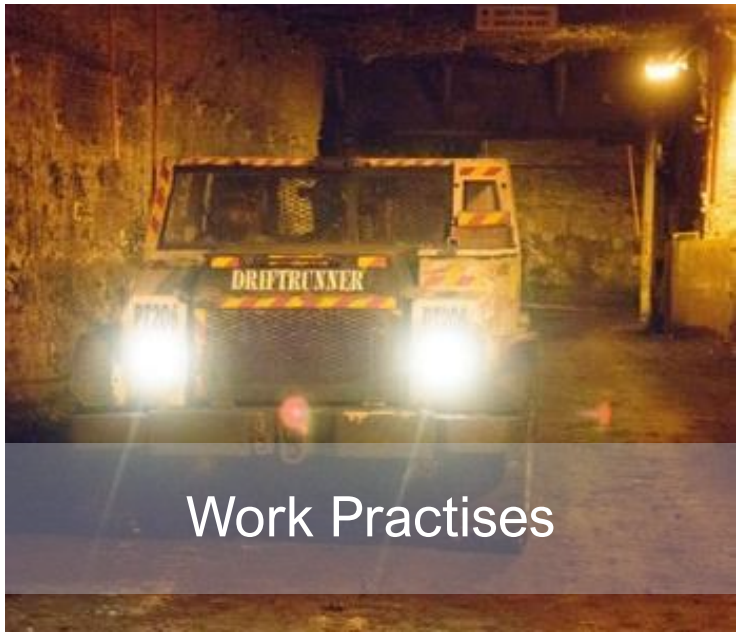
- **33%** of surface workers and **95%** of underground workers who exceeded WES were wearing RPE
- **36%** of surface workers **58%** of underground workers monitored were clean shaven

# Diesel Emissions Exposure




Diesel Tag Board Compliance

Exhaust Filters




Work Practises

Images: BREATHEFREELY Australia

# Welding Fume Exposure Control

Coal Services




Images: BREATHEFREELY Australia

# Welding Fume Exposure Control

Disused LEV System


Damaged LEV System


Damaged PAPR

Images: Resources Safety & Health Queensland

HYGIENE & LAB SERVICES

# Dust Control References and Resources


Hygiene & Lab Services

- Standing Dust Committee
- Representation
- Publications and bulletins
- Dust Control References and Resources
- Welding Fume
- Standing Dust Committee Forums


### How can we help?

A vital part of our role as a Specialised Health and Safety Scheme involves assisting employers and workers to comply with relevant workplace laws and regulations.
Contact our team for more information.

View office locations

**ENQUIRE**

If you are looking for a specific part of the Coal Services organisation, or you're not sure who to contact, get in touch with our team.

Submit a General Enquiry

## General

- Water Application and Sprays
- Conveyor belts and transfers
- Respiratory Protective Equipment

## Underground Mining

- Underground Longwall
- Underground Continuous Miner

## Surface Mining

- Mobile Equipment Cabs
- Drilling and Shot Firing
- Coal Handling and Processing
- Maintenance

Coal Services

www.coalservices.com.au

Coal Services

# Coal Services Health

# What we'll cover in this session:

Coal Services

1. Year in review
2. Health Promotion
3. Strengthening Governance Arrangements
4. MSAC Review of NSW Health Surveillance Scheme
5. Standing Health Committee
6. Order 43 Review
7. Managing Lung Disease in the NSW Coal Industry
8. Dust Disease Claims - CMI
9. Panel Discussion
10. Session Close

Coal Services

# Year in Review

# CS Health medical service provision

NSW Coal Mine Workers (CY 2023)

Coal Services

## CS Health

| 16 | 11,253 | 6,570 | 2,550 | 12,408 |
|---|---|---|---|---|
| Doctors | Order 43 Medical Assessments | Medical Reviews | Other Medical Assessments | EDN Medicals Processed |

## External Doctor Network (EDN)

| 64 | 12,408 |
|---|---|
| Doctors | Order 43 Medical Assessments |

## Investigations

| 140 | 195 | 16 | 19 |
|---|---|---|---|
| **workers** | **(males)** | **(females)** | **workers** |
| Further respiratory investigations | Significant Medical Conditions | | Cardiovascular Risk |

## Call Centre

| 37,584 |
|---|
| Calls received |

Coal Services

# Promoting Coal Mine Worker Health and Wellbeing

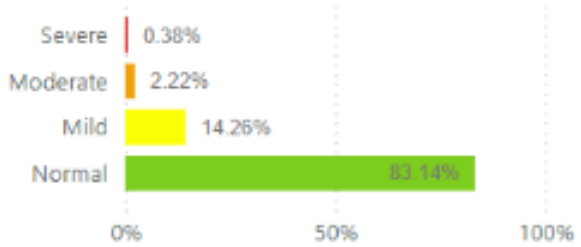
# Dashboard

CS Health

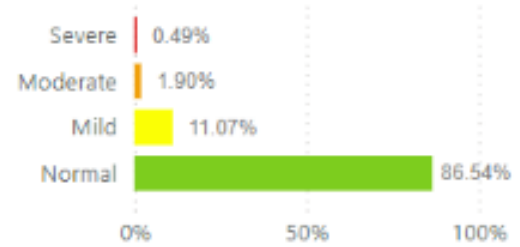
| Date | Customer | Service | Age Group | Gender |
|---|---|---|---|---|
| 1/05/2021 – 1/05/2024 | All | Periodic | All | All |

## CVD Risk Profile

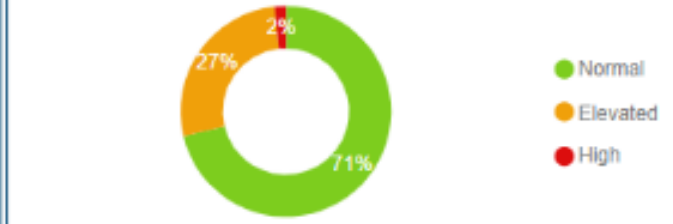

## Blood Pressure - Systolic



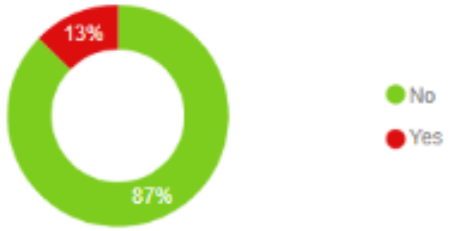

## Blood Pressure - Diastolic



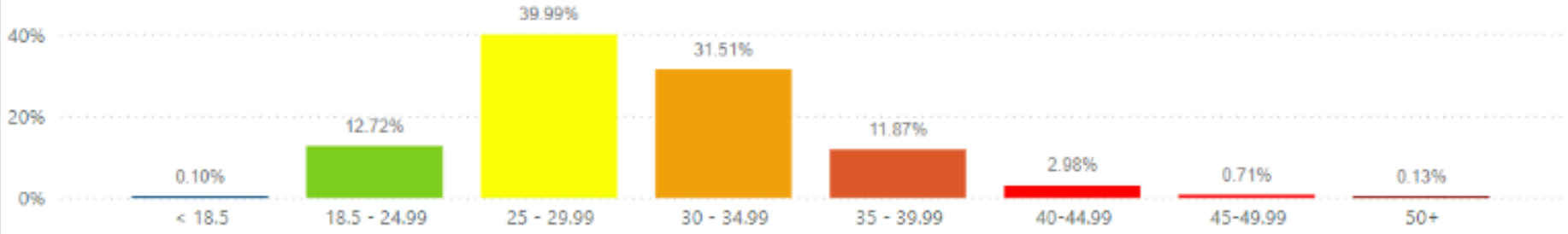

## Cholesterol



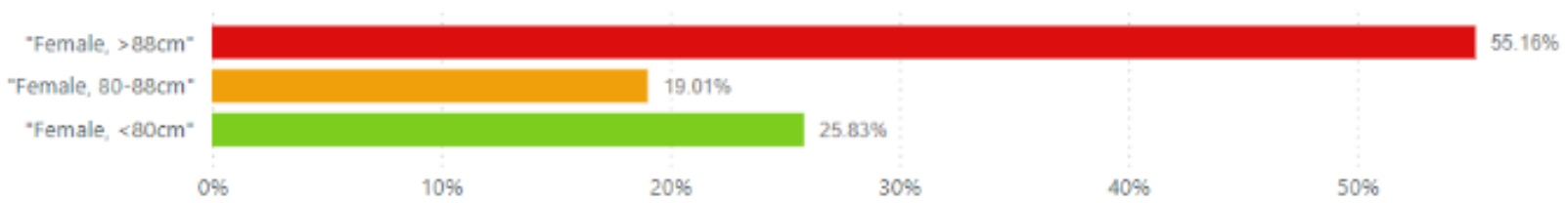

## Smokers

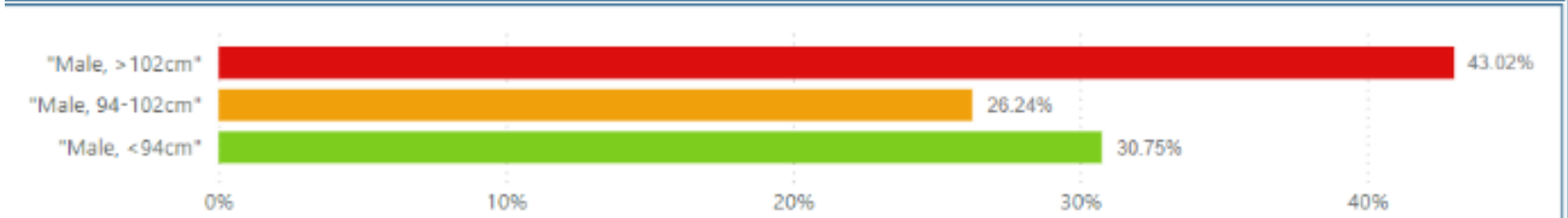


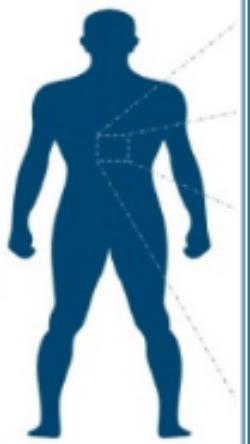

## BMI Distribution




## Risk by Waist Circumference



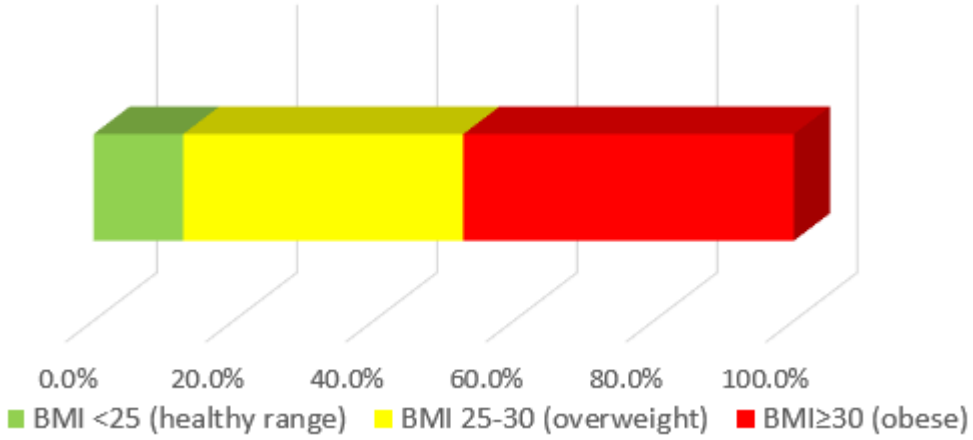



**23919**
**Workers**

| | |
|---|---|
| Average Weight (kg) | 95.15 |
| Average Height (cm) | 177.21 |
| Average BMI | 30.24 |

# University of Newcastle weight loss trial

## Volunteers needed!




**87%** of the NSW coal mining workforce is overweight or obese.

- Weight loss trial funded by Coal Services Health & Safety Trust
- Free for workers to participate
- Recruiting volunteers until 31 July 2024

Coal Services

# Strengthening Governance Arrangements

# Clinical Governance Committee


- Independently chaired by Occupational Physician – Dr Peter Yu.

*Health Incident Management System (HIMS)
**Centralised Audit Monitoring System (CAMS)

Coal Services

# NSW Mine Safety Advisory Council (MSAC)

*Review of the NSW Health Surveillance Scheme for Coal Mine Workers*

# NSW Mine Safety Advisory Council (MSAC)

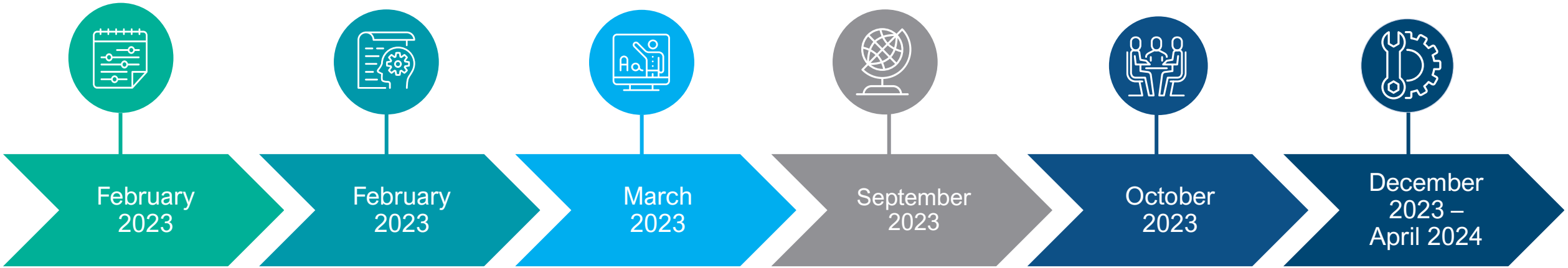
Coal Services

- MSAC is a tripartite forum made up of employers, unions and government.
- Provides advice to the Minister on strategic health and safety issues affecting mining industry.
- MSAC is appointed and authorized by the Minister.
- Full report: ***Review of the NSW Health Surveillance Scheme for Coal Mine Workers*** can be found of the Resources Regulator website. Link below.

Review of the NSW health surveillance scheme for coal mine workers

# MSAC Review of the NSW Health Surveillance Scheme for Coal Mine Workers

Coal Services



# MSAC Review Implementation Working Group

Coal Services

## *Impact Analysis*

- Increased demand on medical resources e.g. 12% workers will require CLFT
- Psychological / Psychosocial impact for workers going through the clinical pathway
- Reduced exposure limits (restrictions) for 1,500 workers e.g. 5% workforce
- Greatest impact will be on IMD exposure limit

  ***A transitional exposure limit has been proposed by Working Group***

- Increased cost to insurance scheme, when suitable duties cannot be offered

Coal Services

# Standing Health Committee

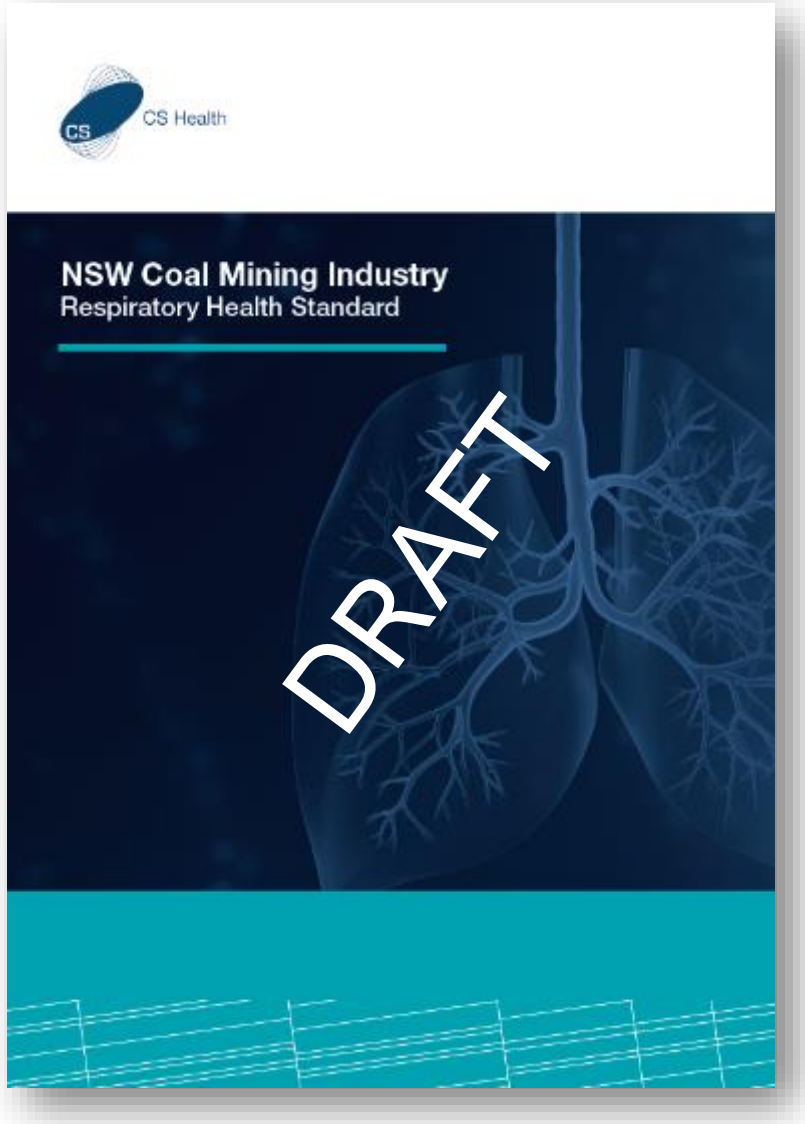
# Standing Health Committee Representation

Coal Services

| Coal Services | Mining & Energy Union | Contractors | Reserve Positions (as required) |
|---|---|---|---|
| Chris Catchpole (Chairman)<br>CS Health<br><br>Emma McNamara (Secretariat)<br>CS Health<br><br>Dr David Meredith<br>CS Health<br><br>Monique Roberts<br>CS Health<br><br>Ricky Aldana<br>Coal Mines Insurance<br><br>Cindy James<br>Coal Services, Order 34 | Shane Thompson<br>Northern Region<br><br>Andy Davey<br>South-Western Region | Belinda Boon<br>Daracon<br><br>Adam Hallinan<br>Bolt-up Mining | Professor Deborah Yates<br>Respiratory Physician<br><br>*Expert input to Respiratory Health Standard* |
| | **NSW Minerals Council** | **Independents** | |
| | Two positions vacant | Dr Johann Lenffer<br>External Doctor Network<br><br>Annabelle Williams<br>Primary Health Network | |

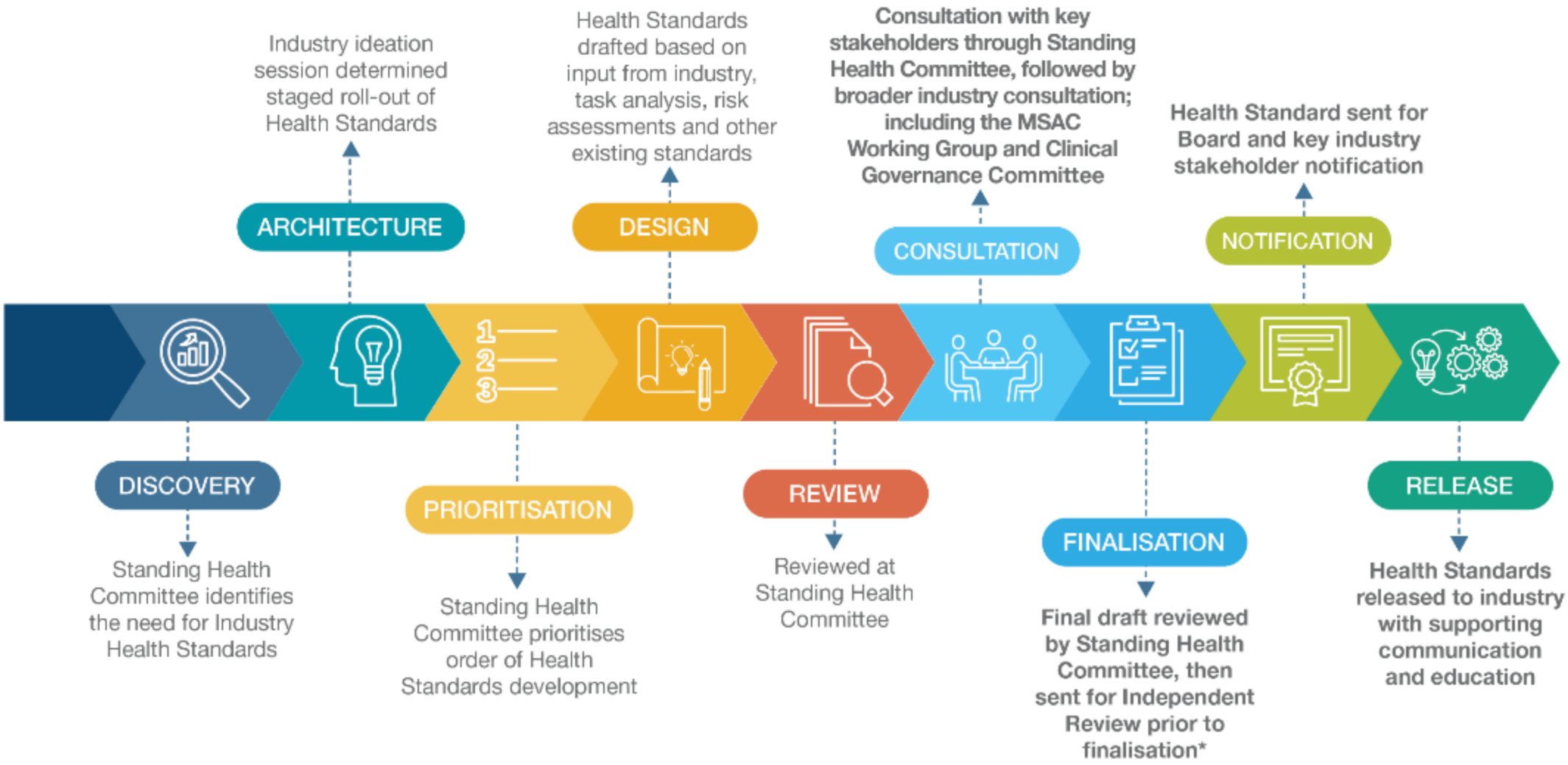
# Standing Health Committee
## Industry Health Standards

1. Respiratory
2. Cardiovascular
3. Sleep Disorders
4. Diabetes
5. Hearing
6. Vision
7. Medication and other substance use
8. Mental Health
9. Neurological conditions
10. Blackouts
11. Whole body vibration
12. Musculoskeletal



# Development of NSW coal mining industry health standards

Coal Services

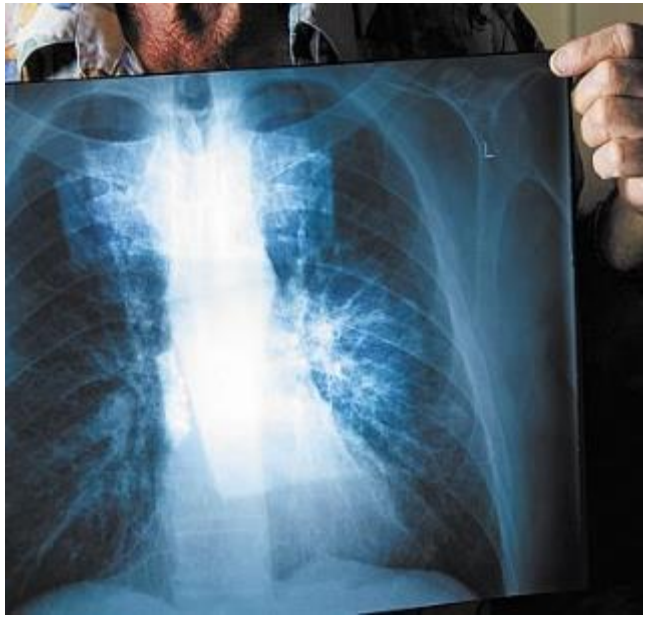



*The transitional inhalable mine dust thresholds will be discussed with the NSW Resources Regulator and MSAC Steering Committee for endorsement.

CS Health

# The evolution of health surveillance in the NSW coal industry

# Evolution of health surveillance in the NSW coal industry

CS Health

# Review of Coal Services Health Monitoring Requirements for Coal Mine Workers Order No. 43

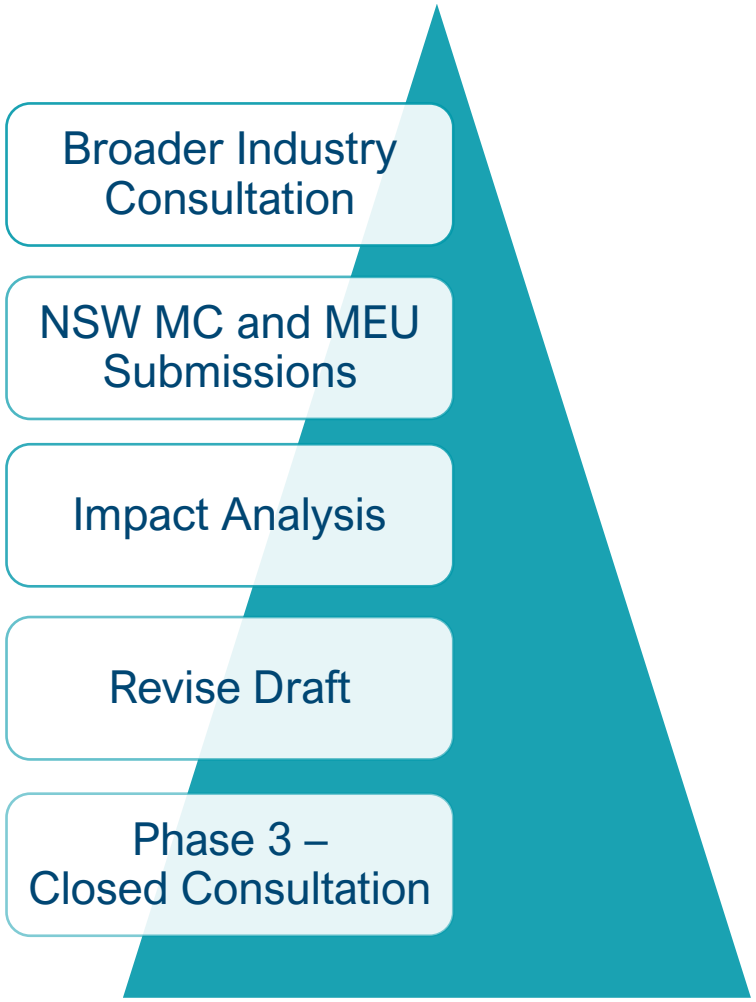
# Review of Coal Services Health Monitoring Requirements for Coal Mine Workers Order No. 43

1. Medical Framework
2. Medical frequency
3. Medical risk profile
4. Approved Medical Practitioner Governance
5. Medical disclosures
6. Medical reviews
7. Exit medicals
8. Respirator Fit Testing
9. Medical Assessment – Delays
10. Coal Mine Worker Lists
11. Approved Health Professionals

- Industry Consultation with Stakeholders completed in 2023
- Draft Order Prototype developed
- Stakeholder feedback

# Review of Coal Services Health Monitoring Requirements for Coal Mine Workers Order No. 43

- Phase One - Industry Consultation with Stakeholders completed in 2023
- Draft Order Prototype completed
- Present Draft to Coal Services Board (February 2024) for endorsement
- Phase Two - Industry Consultation (March 2024)
- Collate Feedback and Revise Draft (April / May 2024)
- Impact Analysis and Revise Draft Order (May / June 2024)
- Present Draft to Board for Review and Phase 3 Consultation Approval
- Phase Three - Closed Consultation (NSWMC and MEU)
- Review feedback and present final Order to Board for approval
- Present Order to Minister for sign off (timeframe at discretion of Minister)
- Industry Communication and Education (Q3 and Q4 2024)
- Go live with Order (1 January 2025)



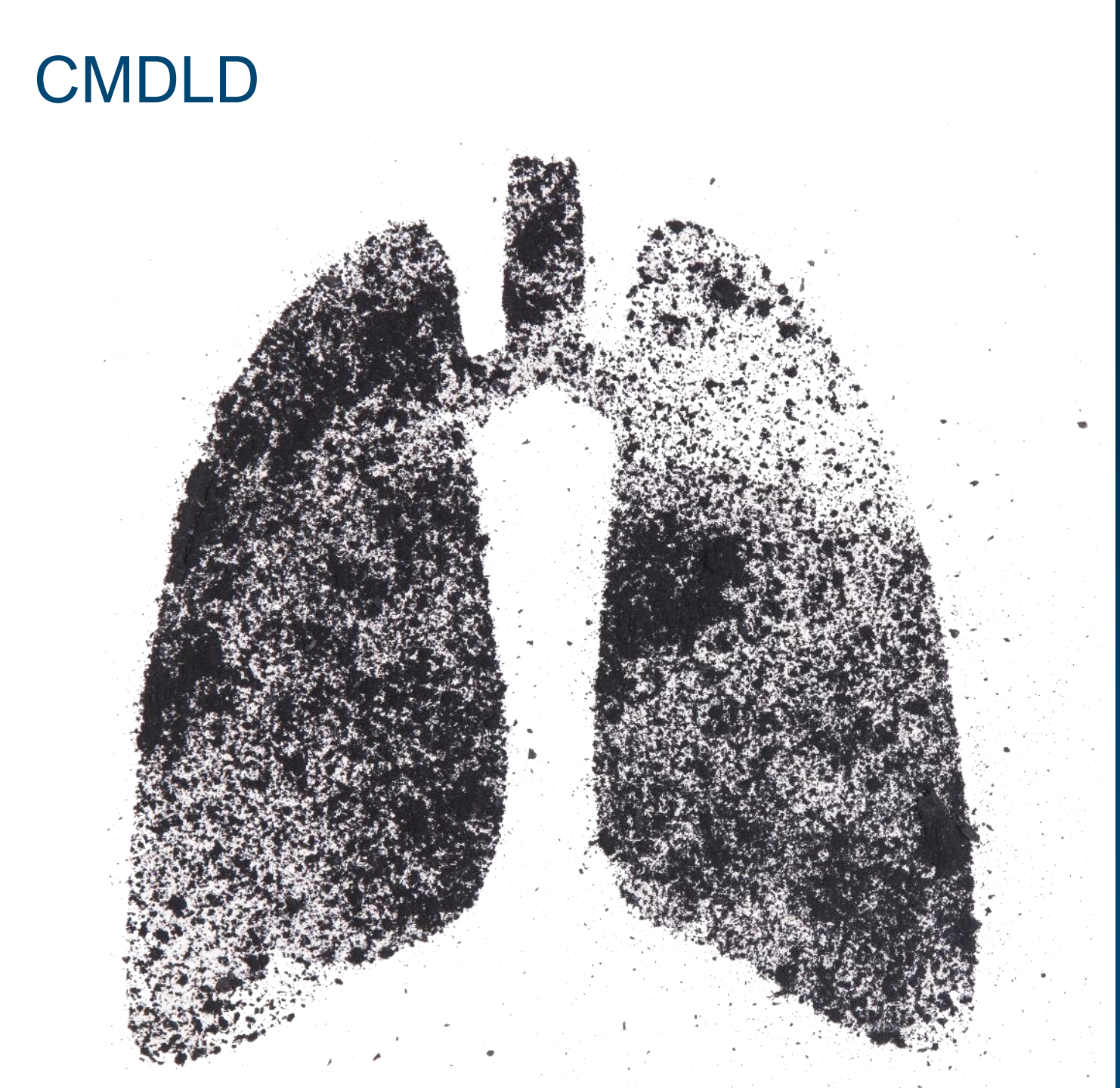
# Managing lung disease in the NSW coal industry

# Session overview

1. Coal Mine Dust Lung Disease
2. Timeline
3. Investigation pathway
4. Management
5. Respiratory Health Standard

# Coal Mine Dust Lung Disease (CMDLD)

# CMDLD



- Coal Workers Pneumoconiosis
- Silicosis
- Mixed dust disease
- Dust-related diffuse fibrosis
- Chronic obstructive pulmonary disease
- Emphysema
- Chronic bronchitis

# Timeline for CMDLD Clinical Pathway


**2015** — Black lung disease re-identified in Queensland

**2017** — CMDLD Collaborative Group delivers a clinical pathway to the Queensland Government

**2020** — TSANZ releases a position statement on respiratory surveillance for CMD and AS exposed workers

**2022** — WCRS Qld publishes "*Returning workers with mine dust lung diseases to the workplace*"

**2023** — MSAC Review report delivered (February)

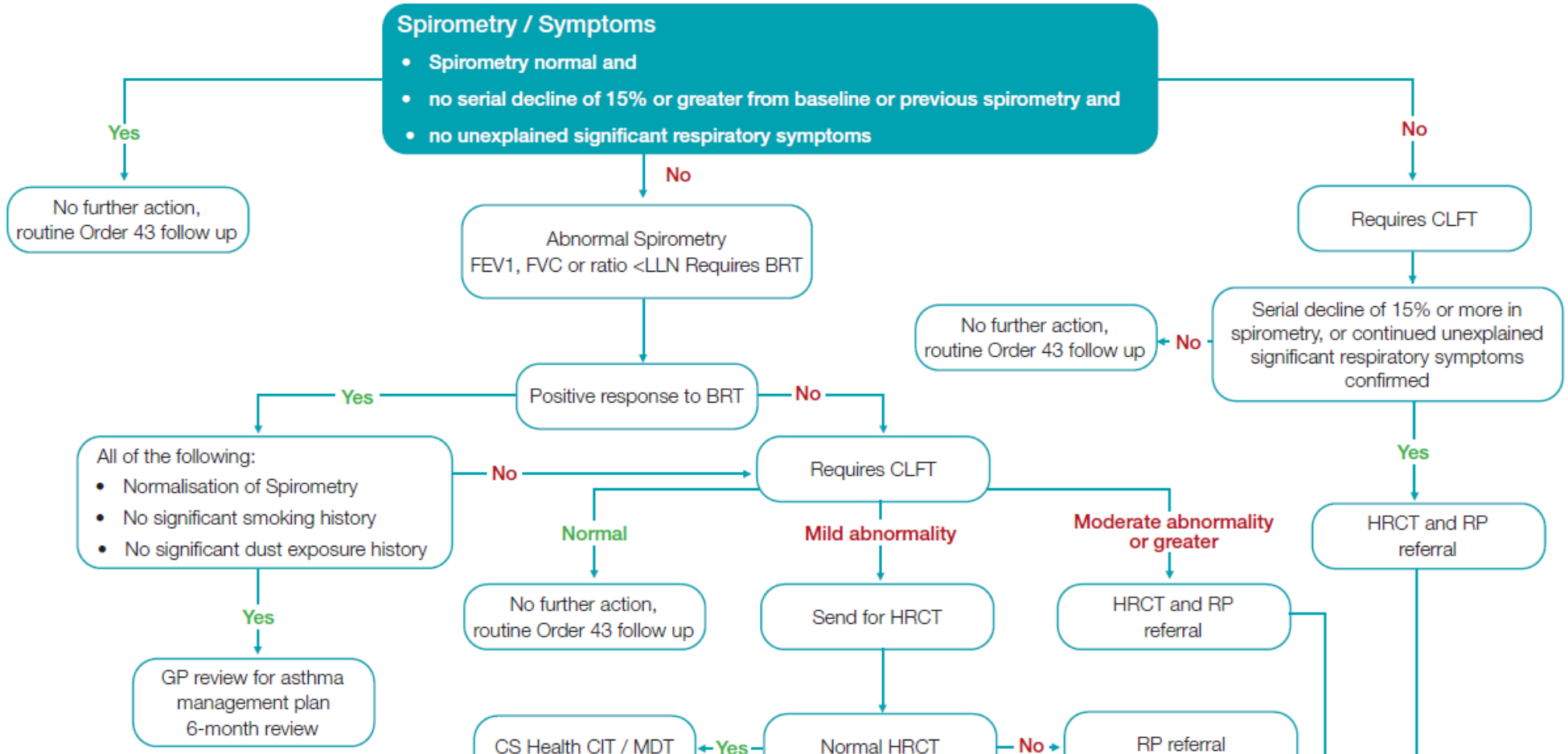
**2023** — MSAC accepts Review recommendations (March)

**2023** — RSHQ releases new clinical pathway for mine dust lung disease

**2023** — CSH directed to begin implementation of all recommendations

# Investigation Pathway

# Clinical Pathways




| | |
|---|---|
| AMP | Approved Medical Practitioner |
| BRT | Bronchodilator Responsiveness Test |
| CIT | Clinical Investigation Team |
| CLFT | Complex Lung Function Test |
| GP | General Practitioner |
| HRCT | High Resolution CT scan |
| MDT | Multi Disciplinary Team |
| RP | Respiratory Physician |

CS Health

# Roles and responsibilities

- Order 43 doctor – identify abnormalities and refer
- RP – diagnose and determine cause
- CIT and O43 doctors – determine fitness for work and restrictions
- GP – manage any identified lung conditions

# Clinical Pathways in application

CS Health

## Existing NSW coal workers

Moderate to severe disease

↓

Refer to Respiratory Physician as before
(no change to process)

Mild disease

↓

Periodics
Pre-placements

## New to Industry

↓

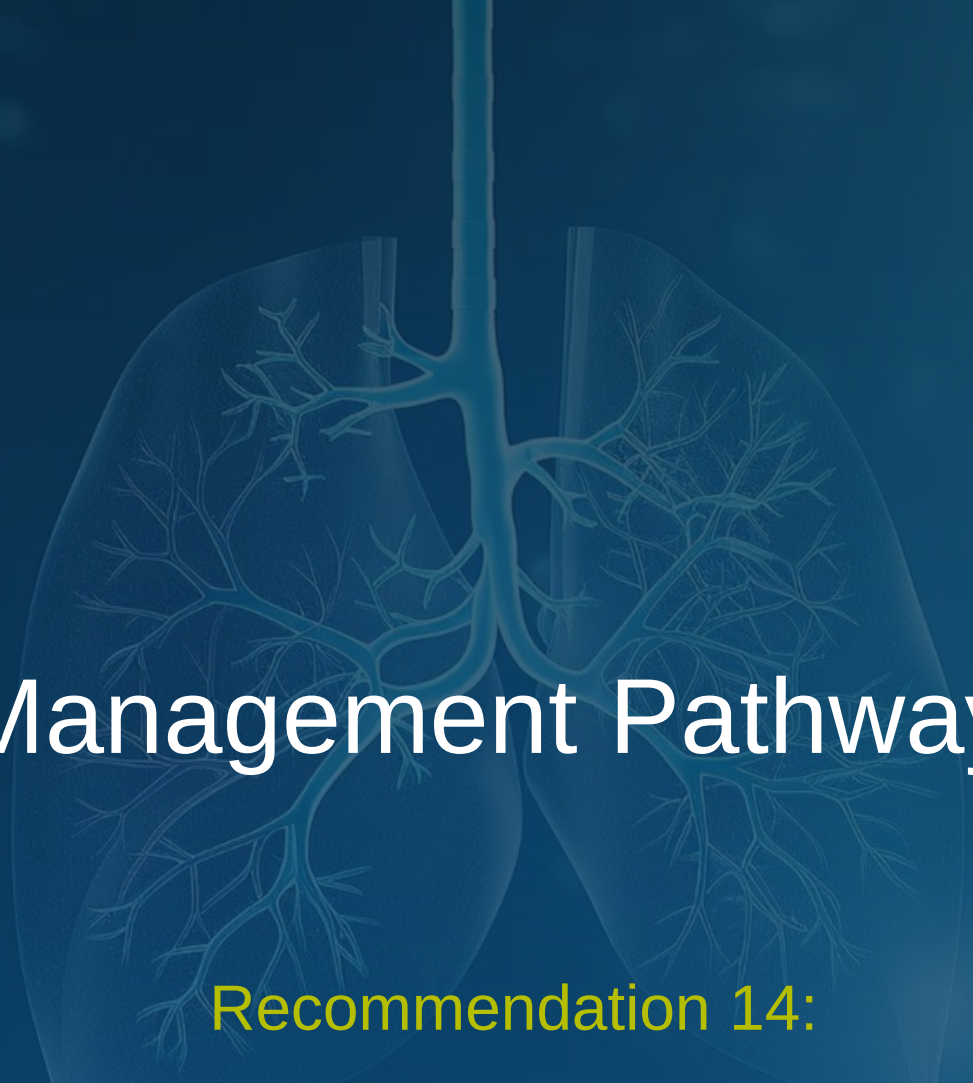
Investigate prior to clearance

# Process

CS Health arranges testing for existing and retired NSW coal miners

Findings are discussed with the miner

Meetings with employers



# Management Pathways

Recommendation 14:

*Establish formal criteria to return workers with early CMDLD or other non-occupational lung diseases to work, or removal from exposure for those with more advanced disease*

# Management guidelines

## Review of the New South Wales Health Surveillance Scheme for Coal Mine Workers

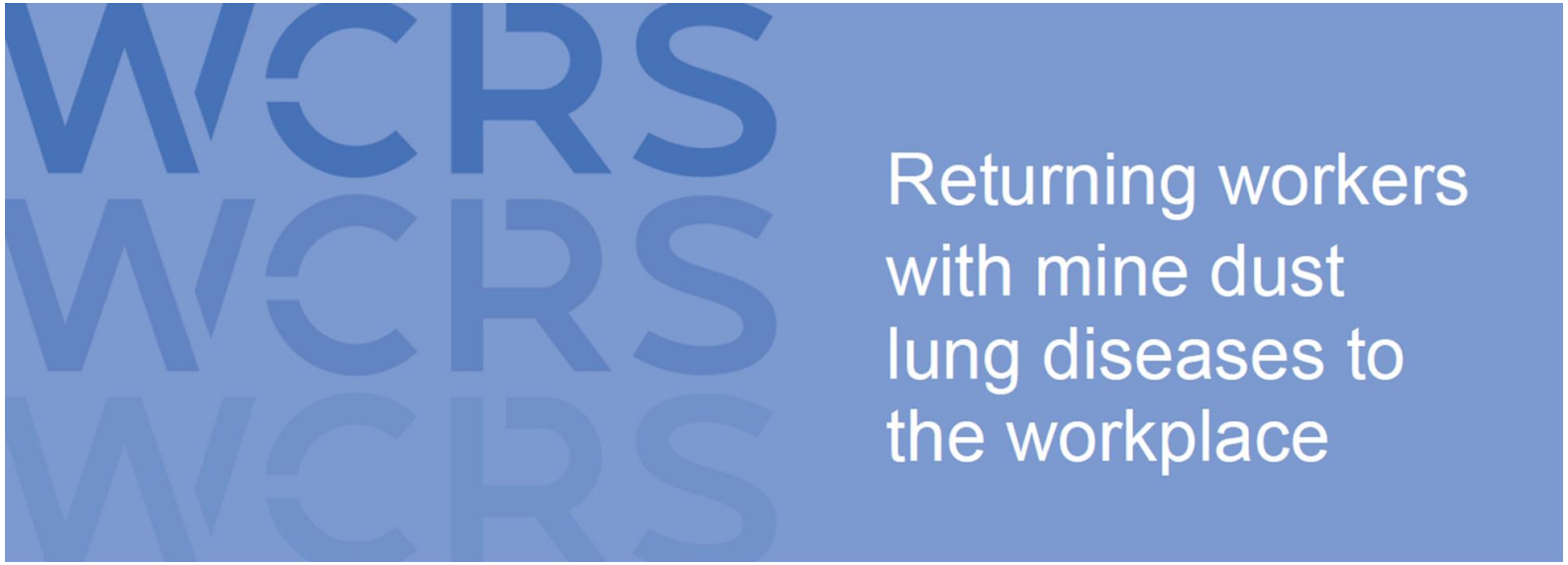
Page 41:

"*While the review team recognises that the respiratory physicians did not diagnose coal mine dust-related lung diseases in these cases, this approach does not account for the need to preserve the workers' remaining lung function*."

Page 42:

"*Regardless of the putative underlying cause(s) of a worker's lung disease, the severity of lung function abnormalities should, by themselves, prompt consideration for reducing future dust exposure*."

# Formal Criteria



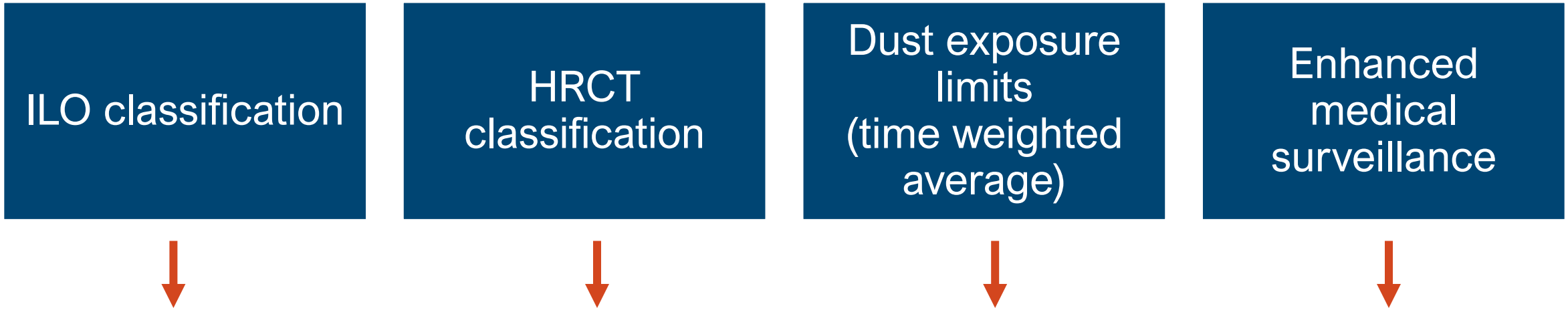

The review identified only one guideline globally dealing with x-ray and lung function abnormalities.

Developed by an expert panel or respiratory physicians and occupational Physicians

Based on evidence from a large literature review

# Radiological Abnormalities

**Criteria to manage workers with abnormalities on chest x-ray:**




- Restrictions vary but aim to reduce exposure to dust / exclude from dust exposure
- Requires enhanced dust monitoring and periodic review of work tasks
- Requires at least annual respiratory review, HRCT, CLFT

# Lung Function Abnormalities

**Criteria to manage workers with abnormal spirometry:**

| Level of spirometry decline | DLCO values | Dust exposure limits (time weighted average) | Enhanced medical surveillance |
|---|---|---|---|

- Restrictions vary but aim to reduce exposure to dust / exclude from dust exposure
- Requires enhanced dust monitoring and periodic review of work tasks
- Requires at least annual respiratory review and CLFT

# Management Terminology

Certificate

Determination
Coal Mine Worker can continue to carry out the work? Answer YES
Comments
Fit to continue work with specified remedial measures.

Remedial measures required? Answer YES
Comments

1. Should aim, as far as reasonably practicable, to comply with reduced 8-hour time weighted average exposure level of < 0.5mg/m3 RCD, < 0.025mg/m3 RCS and < 1.25mg/m3 IMD.
2. Should be part of enhanced dust monitoring with periodic review of work tasks.
3. Requires enhanced medical surveillance with annual lung health monitoring.

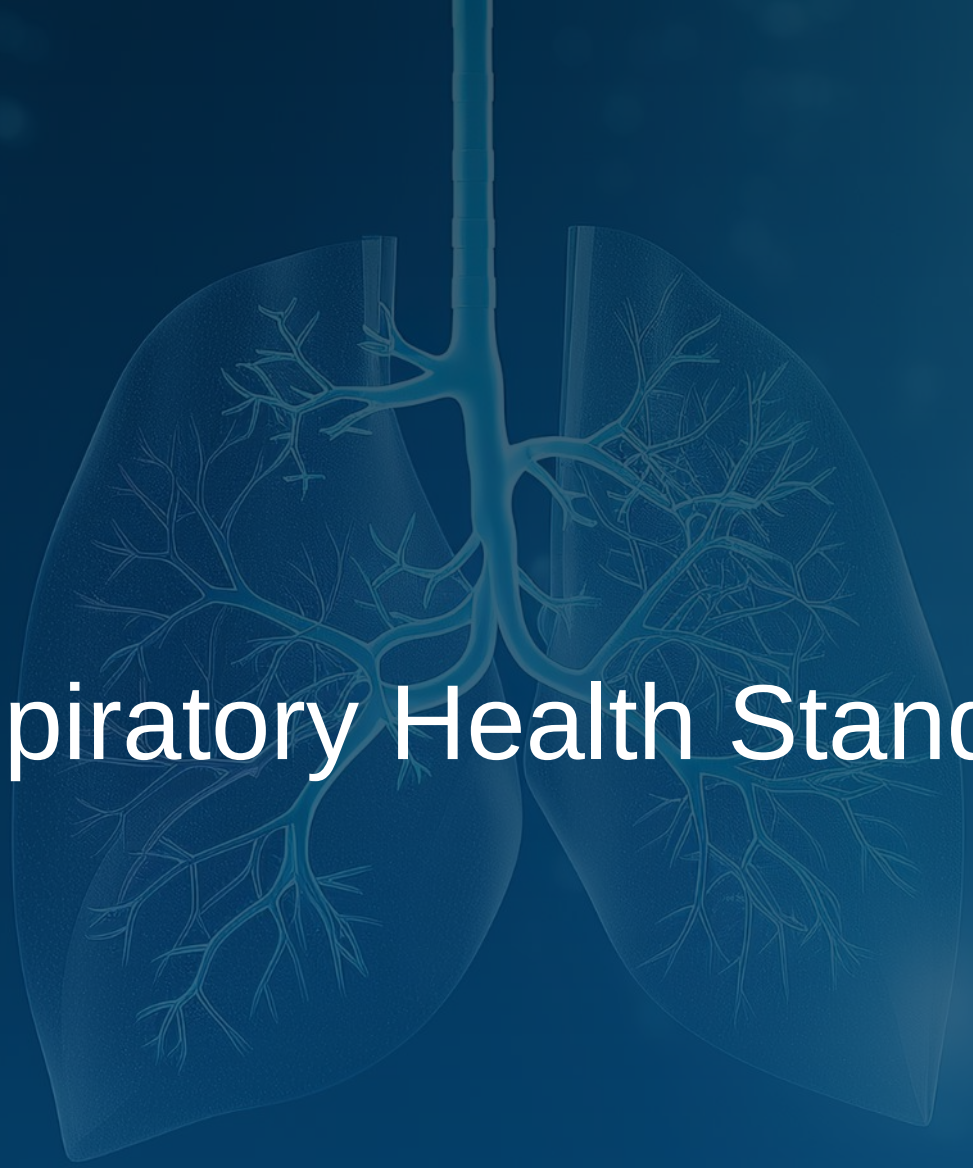
Any test results indicating a disease, illness or injury as a result of carrying out the work? Answer YES
Comments
COPD/Emphysema

Medical counselling required? Answer NO

Follow-up
Review Type - Medical review and spirometry boxes selected
Review Time - 12 months

Follow-up Comments
Medical review with CLFT in 12 months.

Is the Employer required to take any action as part of the follow-up? Answer YES
Actions
Review of dust exposure levels and work tasks as specified.
Ensure worker attends for follow up lung health surveillance as specified.



CS Health

# Respiratory Health Standard

# What is a Health Standard?

CS Health

Practical, risk-based assessment tools for making fitness for work medical determinations based on job role requirements and assessed risk

Defines level of medical fitness, and medical criteria for various body systems based on relative risk

Details follow-up requirements and medical management plan to control / manage / minimise risk

Assists to identify job accommodations or adjustments to ensure individuals can work safely and effectively

Involves process of risk stratification based on risk assessments

# Benefits of Coal Industry Health Standards

CS Health

Equity and balance between restrictions and denial of work opportunities

Consistency, transparency and fairness in Order 43 determinations

Removes arbitrary boundaries and determinations

Reduces ambiguity, requests for unnecessary investigations and reports

Reduces need for consensus determinations and medical panels

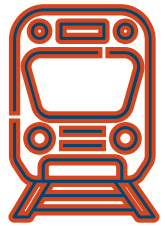
Reduces costs, delays, unnecessary testing for workers, operational issues for employers

# Considerations for the development of industry health standards

Coal mine workers are exposed to diverse physical conditions, workloads, and hazards

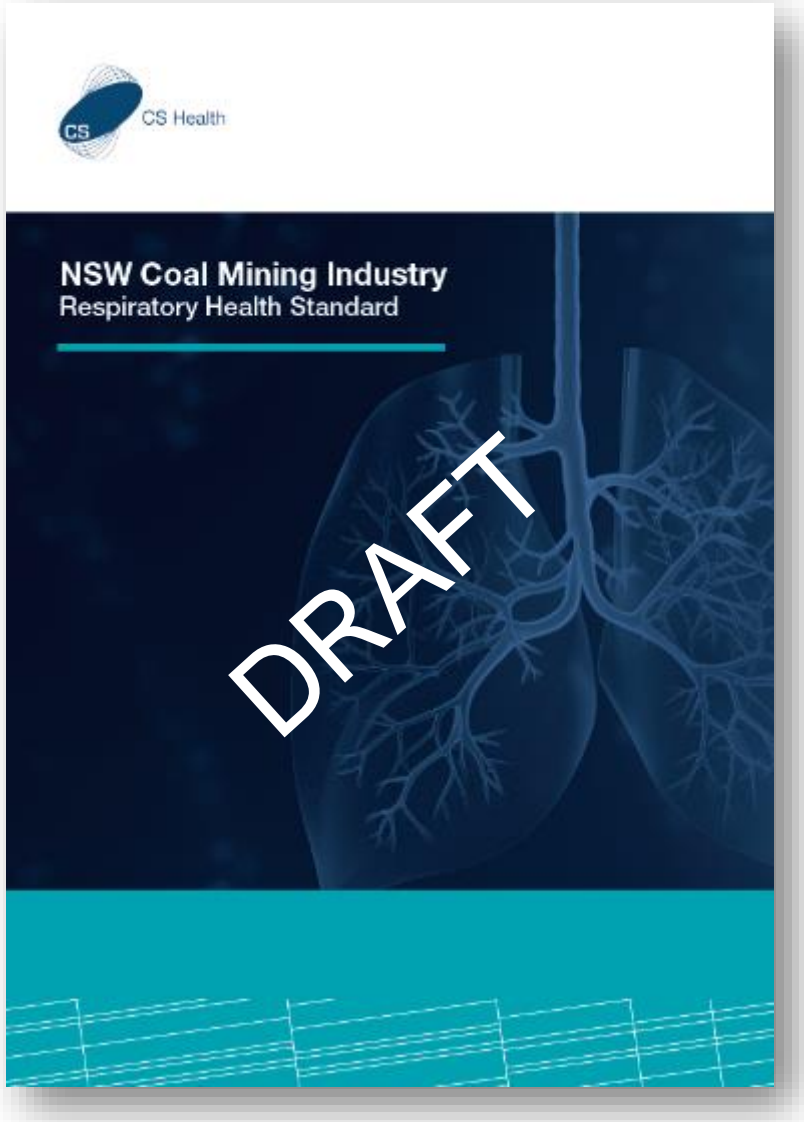
A health standard must consider:

- health conditions
- hazards
- Sudden incapacity



Health standards are common across many industries

# Respiratory Standard




- Remote work
- Use of BA
- Dust exposure
- Isocyanate use
- Other respiratory hazards
- Underground work

Coal Services

# Coal Mines Insurance

# Dust Disease Claims

# Dust diseases or lung claims

Coal Services

## Diseases of gradual process caused by employment

Definition under Section 4 of the *Workers Compensation Act 1987* (1987 Act):

- A disease contracted by a worker in the course of employment to which employment was a contributing factor
- Can also be an **aggravation, acceleration, exacerbation or deterioration** of a disease

**The liability test**
Employment **must** be “a contributing factor”

**A dust disease**
Is a respiratory disorder caused by repeated inhalation of respirable coal dust over a period of years.

# FAQ – lodging a claim

Coal Services

## How does a worker make a claim?

For a claim to be duly made, CMI requires:

- Worker's Injury Notification Form
- SIRA Certificate of Capacity

## Can a worker claim workers compensation if they cannot work while waiting for further tests?

Yes, workers can claim at any time however weekly compensation will not commence until a determination on liability has been made.

## If a worker's Order 43 medical assessment prevents them from working, can they make a claim for workers compensation?

Yes, workers can claim at any time however CMI still requires the claim to be duly made with medical evidence supporting connection between their dust disease and employment.

# FAQ – claim process

## What is the process once a claim is made?

A Specialist Case Manager will:

- Contact the worker to discuss the claim process
- Obtain the worker's authority and request the worker's file from CS Health
- Obtain information from the employer such as dust monitoring reports and duties performed by the worker
- An Independent Medical Examination with a Respiratory Physician will be arranged, and all information gathered will be sent to the Medical Examiner

## What other information will CMI need from the worker?

- A statement from the worker that details their employment history
- Details of the worker's doctors, scans, and current treatment
- Information from the worker's treating doctors

# FAQ – determination of liability

Coal Services

## How long will it take CMI to make a decision to commence weekly payments?

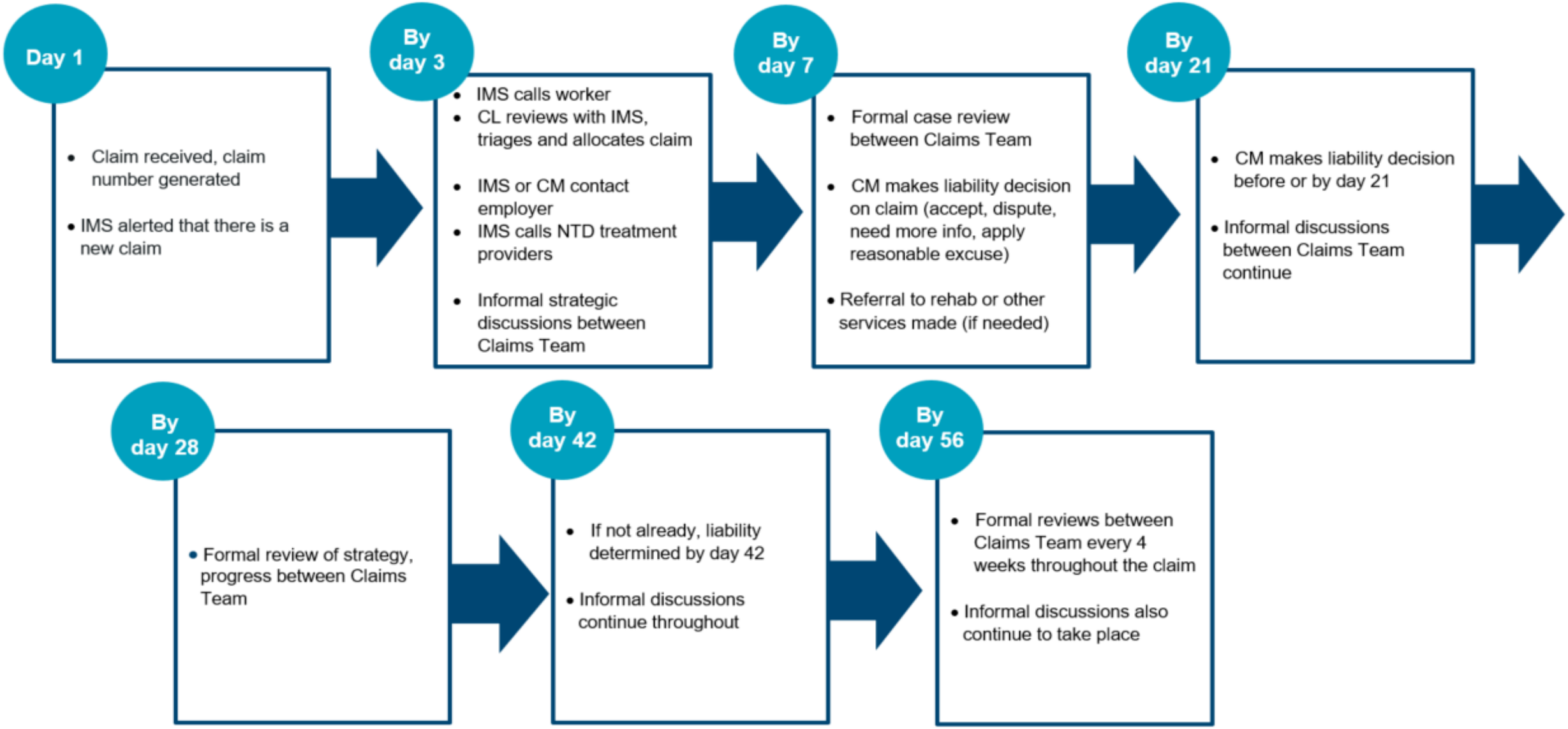
- 21 days unless there is a reasonable excuse not to commence payment
- Decision made at 42 days whether to accept or decline.
- Limited availability of suitably qualified respiratory specialists may delay the decision beyond 42 days.

## How does CMI assess whether the worker's lung condition is work-related?

After careful consideration of all available information including information pertaining to diagnosis and attributability to employment, a Specialist Case Manager will assess the worker's claim and make a determination on liability.

# The claims process

Coal Services



# Additional considerations

- Same decision-making timeframes as general claims
- Dust disease claims registered against the CMI workers compensation nominal defendant – not the policyholder
- Dust disease claims not premium impacting
- Dust monitoring will be requested from the employer and sent to the respiratory physician doing the assessment
- Potential regulatory reporting obligations
- Information is required from all previous employers (not just the last employer)

# Additional considerations

- Dust disease claims- registered against the CMI workers compensation nominal defendant – not the policyholder
- Dust disease claims not directly premium impacting
- Dust monitoring will be requested from the employer and sent to the respiratory physician doing the assessment
- Potential regulatory reporting obligations
- Information is required from all previous employers (not just the last employer)
- Return to Work obstacles


Coal Services