# Coal Mining Safety and Health Advisory Committee

Annual report 2019–20



© State of Queensland, 2020.

The Queensland Government supports and encourages the dissemination and exchange of its information. The copyright in this publication is licensed under a Creative Commons Attribution 4.0 International (CC BY 4.0) licence.



Under this licence you are free, without having to seek our permission, to use this publication in accordance with the licence terms.

You must keep intact the copyright notice and attribute the State of Queensland as the source of the publication.

For more information on this licence, visit https://creativecommons.org/licenses/by/4.0/

The information contained herein is subject to change without notice. The Queensland Government shall not be liable for technical or other errors or omissions contained herein. The reader/user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using this information.

#### Interpreter statement

The Queensland Government is committed to providing accessible services to Queenslanders from all culturally and linguistically diverse backgrounds. If you have difficulty in understanding this document, you can contact us within Australia on 13QGOV (13 74 68) and we will arrange an interpreter to effectively communicate the report to you.



29 October 2020

The Honourable Dr Anthony Lynham MP Minister for Natural Resources, Mines and Energy 1 William Street Brisbane Qld 4000

#### Dear Minister

In accordance with section 77(1) of the *Coal Mining Safety and Health Act 1999*, I am pleased to submit to you the Coal Mining Safety and Health Advisory Committee's annual report for the year ending 30 June 2020.

Yours sincerely

Kate du Preez

Commissioner for Resources Safety and Health<sup>1</sup>

<sup>&</sup>lt;sup>1</sup> The *Coal Mining Safety and Health Act 1999* was amended on 1 July 2020. The role of Commissioner for Mine Safety and Health ceased and the role of Commissioner for Resources Safety and Health commenced.

### **Table of Contents**

From the chair	2
Background	3
Role of the advisory committee	4
Membership	5
Substitute members	5
Meetings held	6
Work of the advisory committee	7
Review the effectiveness of the legislation	7
Review of Act, Regulation and recognised standards	7
Resources Safety and Health Queensland Bill 2019	8
Amendments to the Coal Mining Safety and Health Act 1999	9
Amendments to the Coal Mining Safety and Health Regulation 2017	9
Updates to recognised standards and guidance notes	10
Review the effectiveness of the control of risk to any person	11
Brady review	12
Respirable dust	12
Safe Work Australia airborne contaminants review	12
COVID-19	13
Evaluation of real-time personal dust monitoring devices	13
Fatigue	13
Steel casings in horizontal wells in coal seams	14
Establishing, recognising and publishing competencies	14
Ventilation officers	14
Mine surveyors	14
Stakeholder engagement	15
Looking ahead	16
Expenses incurred	17

### **Tables**

Table 1: Coal Mining Safety and Health Advisory Committee members for 2019–20	5
Table 2: Coal Mining Safety and Health Advisory Committee substitute members for 2019–20	5
Table 3: Coal Mining Safety and Health Advisory Committee meetings in 2019–20	6
Table 4: Coal Mining Safety and Health Advisory Committee legislation effectiveness review sub-committee	8
Table 5: Expenses incurred by the Commissioner for Mine Safety and Health in relation to the Coal	
Mining Safety and Health Advisory Committee	.17

### FROM THE CHAIR

For 20 years, the Coal Mining Safety and Health Advisory Committee has played a significant role in protecting the safety and health of mine workers. In that time, members from mine operators, unions and the regulator have contributed their considerable knowledge and experience and a great deal of their time to providing advice to the Minister for Natural Resources, Mines and Energy in an effort to make the coal mining industry safer.

In spite of the difficulties posed by the emergence of COVID-19 in 2019-20, the advisory committee has delivered a substantial volume of advice to the Minister on a diverse range of topics.

This has included a landmark expert legal assessment of the suite of coal mining legislation, which is the culmination of the first stage of a longer-term project to review the effectiveness of the legislation.

The assessment, which was conducted by a multidisciplinary team from the University of Queensland and incorporated representatives from the Sustainable Minerals Institute's Minerals Industry Safety and Health Centre and the T.C. Beirne School of Law, was the first expert assessment of the legal framework to be completed since its introduction 20 years ago.

This was an independent assessment of the accuracy of the legislative framework and included interviews with industry representatives from a wide range of stakeholders.

The advisory committee has also worked to analyse and interpret the recommendations from Dr Sean Brady's *Review of all fatal accidents in Queensland mines and quarries from 2000 to 2019*. Members have engaged closely with Dr Brady to better understand the outcomes and recommendations and to

assess how the advisory committee can assist coal mine operators, workers, and the regulator in their implementation.

In 2019–20, the advisory committee developed and endorsed new or updated recognised standards for the use and control of polymeric chemicals at underground coal mines and the control of dust in surface mines. It also recognised and published a new competency requirement for ventilation officers and considered whether the existing competencies for mine surveyors should be updated.

The advisory committee has provided the Minister with advice on a number of significant legislative changes including the introduction of industrial manslaughter into the resources legislative framework and the establishment of an independent regulator for the resources industry through the *Resources Safety and Health Act 2020*.

This year has been marked by a level of uncertainty that nobody could have predicted, and the way the advisory committee works has had to undergo some drastic changes to ensure continuity of service and advice.

However, the quality of the advice provided has again been exceptional and I would like to thank all members, present and past, for selflessly contributing their time, expertise and knowledge in the pursuit of the common goal of promoting and protecting the safety and health of people at coal mines in Queensland.

1(ch

Kate du Preez

Commissioner for Resources
Safety and Health

### **BACKGROUND**

The Coal Mining Safety and Health Advisory Committee is required to be established under part 6 of the *Coal Mining Safety and Health Act 1999.* Its establishment replaced the Coal Mining Safety and Health Advisory Council.

The advisory committee is a tripartite body formed to provide advice to the Minister on coal mining safety and health. The advisory committee is an integral part of the governance arrangements that are in place to manage safety and health in the industry and to ensure coal mine workers arrive home safe and healthy every day.

Under the *Coal Mining Safety and Health Act 1999*, the chair of the advisory committee must prepare an annual report on the committee's operations for the year. The report must be given to the Minister for Natural Resources, Mines and Energy as soon as practicable, but within four months, after the end of each financial year. The Minister must table the report in the Legislative Assembly within 14 sitting days.

### **ROLE OF THE ADVISORY COMMITTEE**

The primary function of the advisory committee is to give advice and make recommendations to the Minister about promoting and protecting the safety and health of persons at coal mines.

The advisory committee must discharge its function by periodically reviewing the effectiveness of the:

- Act, Regulation, and recognised standards
- control of risk to any person from coal mining operations.

In periodically reviewing effectiveness, the advisory committee must have regard to:

- the risk management performance of the coal mining industry
- the appropriateness of recognised standards
- education, training, and standards of competency within the coal mining industry
- the implementation of recommendations from inspectors' investigations, coroners' inquests, boards of inquiry and other sources
- the promotion of community knowledge and awareness of safety and health in the coal mining industry
- any other matter referred to it by the Minister.

The advisory committee also has the function of establishing, recognising and publishing the competencies accepted by it as qualifying a person to perform the stated tasks, and the safety and health competencies required to perform the duties of a person under the Act.

From 1 July 2020, the *Resources Safety and Health Queensland Act 2020* amended the *Coal Mining Safety and Health Act 1999* to enhance the functions of the advisory committee. The primary function of the advisory committee will be to provide advice and information to the Minister about critical risks to safety and health in the coal mining sector, and on the performance of the regulator. The advisory committee will also develop and evaluate progress against a five-year strategic plan and develop action plans to achieve measurable targets.

The enhanced functions of the advisory committee build on proven tripartite working arrangements and address recommendations for the advisory committee to provide a more strategic focus in identifying critical safety and health risks.

### **MEMBERSHIP**

The advisory committee consists of nine members representing the Queensland Government, coal mine workers and coal mine operators, and an independent chair. Members are nominated to, and appointed by, the Minister. The chair of the advisory committee is the Commissioner for Resources Safety and Health, Mrs Kate du Preez. Members are appointed for terms of up to three years and there is no limit to the number of terms members can serve.

The advisory committee includes members from the Construction, Forestry, Mining and Energy Union (CFMEU), Electrical Trades Union (ETU), Queensland Resources Council (QRC) and Department of Natural Resources, Mines and Energy (DNRME). The Chief Inspector of Mines, Coal is to be a member of the advisory committee.

Table 1: Coal Mining Safety and Health Advisory Committee members for 2019–20

Name	Representing	Organisation	Meetings
Kate du Preez	Independent chair	Commissioner for Resources Safety and Health	10
Ian Cribb	Coal mine operators	QRC	8
Shaun Dobson	Queensland Government	DNRME	8
Stephen Evetts	Coal mine workers	ETU	10
Bobbie Foot	Coal mine operators	QRC	9
Peter Newman <sup>2</sup>	Queensland Government	DNRME	3
Jim Randell	Coal mine operators	QRC	10
Luca Rocchi <sup>3</sup>	Queensland Government	DNRME	1
Stephen Smyth	Coal mine workers	CFMEU	9
Mark Stone	Queensland Government	DNRME	9

### **Substitute members**

Substitute members are appointed to stand in when members are not available.

Table 2: Coal Mining Safety and Health Advisory Committee substitute members for 2019–20

Name	Representing	Organisation	Meetings
Kylie Ah Wong	Coal mine operators	QRC	0
Peter Baker <sup>4</sup>	Coal mine operators	QRC	6
Jason Hill	Coal mine workers	CFMEU	10

<sup>&</sup>lt;sup>2</sup> Peter Newman joined the advisory committee on 4 November 2019 on his appointment as Chief Inspector of Mines

<sup>3</sup> Luca Rocchi ceased his membership of the advisory committee on 9 August 2019 when he resigned as Chief Inspector of Mines

<sup>&</sup>lt;sup>4</sup> Peter Baker resigned as a substitute member of the advisory committee on 6 December 2019.

### **MEETINGS HELD**

Under the *Coal Mining Safety and Health Act 1999*, the advisory committee has an obligation to meet at least twice a year. In 2019–20, the advisory committee held 10 meetings. Four of the meetings were scheduled meetings and six were extraordinary meetings related to specific emerging issues referred to the advisory committee by the Minister.

Five of the extraordinary meetings were joint advisory committee meetings with the Mining Safety and Health Advisory Committee.

Table 3: Coal Mining Safety and Health Advisory Committee meetings in 2019–20

Meeting number	Date	Location
Joint meeting with MSHAC—Minister's forum	10 July 2019	Brisbane
Joint meeting with MSHAC	11 July 2019	Brisbane
Extraordinary meeting	2 August 2019	Teleconference
Joint meeting with MSHAC	22 August 2019	Brisbane
89	2 October 2019	Brisbane
90	11 December 2019	Brisbane
Joint meeting with MSHAC—Dr Sean Brady presentation	24 January 2020	Brisbane
91	25 March 2020	Brisbane + teleconference
Joint meeting with MSHAC—Department of Health	6 May 2020	Brisbane + teleconference
92	23 June 2020	Brisbane + teleconference

### **WORK OF THE ADVISORY COMMITTEE**

The advisory committee achieves its primary functions by:

- reviewing the effectiveness of the legislation (Act, Regulation, and recognised standards)
- reviewing the effectiveness of the control of risk to any person from coal mining operations
- recognising, establishing, and publishing
  - the competencies qualifying a person to perform tasks prescribed under a Regulation
  - the safety and health competencies required to perform the duties of a person under the Act.

# Review the effectiveness of the legislation

In reviewing the effectiveness of the coal mining safety and health legislation, the advisory committee examines the *Coal Mining Safety and Health Act 1999*, the Coal Mining Safety and Health Regulation 2017 and the suite of recognised standards published under the Regulation.

The advisory committee maintains a good working relationship with the Department of Natural Resources, Mines and Energy and will continue to identify amendments that it considers essential to the effectiveness of the suite of legislation and to review new legislation after it is drafted.

## Review of Act, Regulation, and recognised standards

In 2016–17, the committee initiated a multiphased review of the full suite of coal mining safety and health legislation in accordance with the requirements of the Act to periodically review the effectiveness of the legislation. A formal review of the effectiveness of the legislation had not been undertaken since the inception of the advisory committee. This review will continue in 2020–21.

In 2019–20, the advisory committee completed the first phase of the project by delivering an expert legal assessment of the *Coal Mining Safety and Health Act 1999*, the Coal Mining Safety and Health Regulation 2017 and associated recognised standards. The *Expert Legal Assessment CMSHA, CMSHR and Recognised Standards* was an independent expert assessment of the intrinsic adequacy of the legal framework and highlighted key issues for the advisory committee to consider.

The legal assessment consisted of a thorough desktop review of each element of the regulatory framework to consider the extent to which it was clear, coherent, current, and comprehensive. The review also considered if there were gaps in the framework and assessed the current balance between the Act and Regulation.

The assessment was conducted by a multidisciplinary team from the University of Queensland, incorporating representatives from the Sustainable Minerals Institute's Minerals Industry Safety and Health Centre, and the T.C. Beirne School of Law.

It consisted of three broad components:

- a desktop analysis of the legislative framework—along with court decisions and coronial inquiries
- semi-structured interviews with representatives from a wide range of stakeholders and backgrounds in the coal mining industry
- a re-evaluation of the legislative framework in the light of insights provided by interviewees.

It is important to note that the review did not encompass any evaluation of how effectively, or otherwise, the legislative framework governing safety and health in the Queensland coal mining industry was being implemented. Such an evaluation would require separate processes.

In total, the review made 113 recommendations highlighting four core issues requiring possible further evaluation and decision and identified provisions of the Act, Regulation and recognised standards that were unclear or contained potential gaps.

For each issue, the multidisciplinary team proposed an approach or recommendation to consider. The report highlighted key issues for the advisory committee to consider in the context of its primary function which is to give advice and make recommendations to the Minister about promoting and protecting the safety and health of persons at coal mines.

The Expert Legal Assessment CMSHA, CMSHR and Recognised Standards report was tabled in the Queensland Parliament by the Minister on 6 February 2020. Subsequent to the review, the Minister directed the advisory committee to establish a tripartite sub-committee to, review and consider the recommendations of the legal assessment.

Table 4: Coal Mining Safety and Health Advisory Committee legislation effectiveness review sub-committee

Member group	Member
Queensland Mines Inspectorate—chair	Peter Newman
Construction Forestry Maritime Mining and Energy Union/Electrical Trades Union	Stephen Smyth
Queensland Resources Council	Jim Randell

The sub-committee's key criteria in assessing the recommendations is to determine whether the proposed amendments would have a material impact of improving efficiency and effectiveness of the legislation with respect to improving safety and health in the industry. As part of the sub-committee's review of the evidence behind the legislation effectiveness review recommendations, it has taken into consideration Dr Sean Brady's recommendations in the *Review of all fatal accidents in Queensland mines and quarries from 2000 to 2019*,6 and the outcomes of the Queensland mining and quarrying industry Safety Reset.

On 23 June 2020, the sub-committee presented 16 recommendations to the advisory committee identified as potentially straightforward to be progressed in the short term for further policy analysis and development. Sub-committee members accepted 15 of these recommendations as written, with one recommendation accepted, but not accepted as written. The advisory committee accepted in-principle the 16 recommendations presented and advised the Minister of the first round of proposed recommendations to be progressed for further policy analysis and development. Consultation on the final drafting will be presented to the advisory committee to ensure the intent of the recommendation has been maintained. As at 30 June 2020, sub-committee members attended four meetings and worked out of session and were expecting to complete their work by the end of October 2020.

 $<sup>^5</sup>$ https://www.parliament.qld.gov.au/documents/tableOffice/TabledPapers/2020/5620T198.pdf

 $<sup>^6</sup>$ https://www.parliament.qld.gov.au/documents/tableOffice/TabledPapers/2020/5620T197.pdf

### Resources Safety and Health Queensland Bill 2019

In July 2019 at the request of the Minister, the advisory committee held a joint meeting with the Mining Safety and Health Advisory Committee to provide advice on the Resources Safety and Health Queensland Bill 2019.

The advisory committees' advice considered a number of key aspects of the Bill including:

- the creation of a standalone regulator covering the mining, explosives, and petroleum and gas inspectorates
- the retention of an independent Commissioner through the creation of a Commissioner for Resources Safety and Health
- the retention of two separate safety and health advisory committees for coal mining and mining and quarrying and their respective roles and responsibilities
- the move to use an independent work health and safety prosecutor.

The Bill received assent from the Governor on 19 March 2020 as the *Resources Safety and Health Queensland Act 2020*.

### Amendments to the Coal Mining Safety and Health Act 1999

The advisory committee provided advice to the Minister on a number of proposed amendments to the *Coal Mining Safety and Health Act 1999*, including the introduction of an industrial manslaughter offence into the resources safety and health legislation, and the process for appointing site safety and health representatives.

#### Industrial manslaughter

The advisory committee held two joint meetings with the Mining Safety and Health Advisory Committee and engaged with

external legal experts to present and provide comprehensive advice to the Minister on the implementation of an industrial manslaughter offence. The advisory committee also provided advice on the elements, definitions, defences, behaviour, and characteristics to be captured by industrial manslaughter in the safety and health legislation.

### Appointment of site safety and health representatives

The advisory committee considered proposed changes to the process for appointing site safety and health representatives at coal mines to ensure adequate representation and reduce undue delays in appointing representatives.

This work will continue in 2020-21.

# Amendments to the Coal Mining Safety and Health Regulation 2017

The advisory committee provided advice to the Minister and feedback to the department regarding proposed amendments to the Coal Mining Safety and Health Regulation 2017.

The proposed amendments related to:

- the use of electrical equipment (cameras) in explosive risk zone zero (ERZo) environments
- the management of methane in underground coal mines.

These amendments were being considered for their potential to strengthen the response to underground ignition or combustion events.

#### Use of electrical equipment in explosion risk zone

Considerations from the recent underground combustion incident at North Goonyella mine identified that the use of cameras in sealed areas to provide information for re-ventilation and re-entry operations could be advantageous.

The sealed area is an ERZo and the use of cameras is prohibited in such an area.

The advisory committee considered proposed changes to the Regulation which would allow for the use of cameras in ERZo areas in a manner that the risk to workers is as low as reasonably achievable.

### Management of methane in underground coal mines

The Queensland Mines Inspectorate presented to the advisory committee on the results of a program of gas management audits it conducted.

As Queensland underground mines have become deeper and productivity rates have increased, the levels of methane gas generated and detected in longwall return airways has been increasing in a number of mines.

The inspectorate advised that to address methane issues it was necessary to make amendments to the Coal Mining Safety and Health Regulation 2017.

The proposed changes better defined where the longwall gas-monitoring sensor is to be located in the return airway to minimise the risk of inconsistent technical interpretations by mine operators. They also provide further clarity on the risk-based approach for mines to ensure all areas of the mine are ventilated to achieve acceptable levels of gas or are sealed to prevent dangerous accumulations of gas in the workings of the mine.

Members advised that while they supported the proposals *in-principle*, they needed time to consider them and provide a submission to the inspectorate following some concerns raised by industry. The inspectorate held a number of operator workshops to work through some of the amendments which identified some changes that were required.

Members advised that they supported the amendments.

# Updates to recognised standards and guidance notes

In 2019–20, the advisory committee worked closely with the department, directly and through the recognised standards subcommittee, on the development of a number of recognised standards and guidance notes.

# The use and control of polymeric chemicals at underground coal mines (RS16)

In 2019–20, the advisory committee endorsed amendments to the recognised standard on the use and control of polymeric chemicals at underground coal mines related to testing requirements for use in Queensland

This recognised standard applies to the use of polymeric chemicals at Queensland coal mines. This includes any use of single use systems, including but not limited to application for ventilation control device sealing. It does not include the polymeric substance contained in foam filled tyres.

The purpose of this standard is to provide information, guidance and direction where required for a mine to develop, establish and maintain systems for the safe storage, transportation, usage and disposal of polymeric chemicals.

This revised recognised standard was gazetted on 12 June 2020.

### Dust control in surface mines (RS20)

This recognised standard applies to the control of dust (respirable and inhalable) at a surface coal mine and provides specific information on compliance with the requirements of the Coal Mining Safety and Health Regulation 2017.

The purpose of this recognised standard is to help identify the key operational areas of airborne dust generation, as well as to assist with risk management of exposure to airborne dust. This also includes validation of the effectiveness of the controls, and implementation of corrective actions if controls have been found to be ineffective.

This recognised standard was gazetted on 29 November 2019.

#### **Draft recognised standards**

The recognised standards sub-committee is continuing to consider new recognised standards on the following topics:

- management structures
- explosion barriers in underground mines
- fluid power safety in coal mines
- risk management.

The recognised standards sub-committee is reviewing the recognised standards for:

- underground non-flameproof diesel vehicles (RSo<sub>4</sub>)
- mine surveying and drafting (RS10)
- monitoring respirable dust in coal mines (RS14)
- management of heat in underground coal mines (RS18).

# Review the effectiveness of the control of risk to any person

In reviewing the effectiveness of the control of risk to any person from coal mining operations, the committee provided independent advice to the Minister and department about:

- the management of respirable dust in coal mines
- the Review of all fatal accidents in Queensland mines and quarries from 2000 to 2019 and the inclusion of an industry serious incident quarterly update as a standard agenda item
- changes to the table of competencies
- Safe Work Australia's review of workplace exposure standards for airborne contaminants
- the management of fatigue in coal mines
- the management of diesel particulate matter in open cut and underground mines
- the potential risks related to COVID-19
- the use of steel casing for horizontal wells in coal seams.
- coal mining safety and health matters, including recognised standards, safety alerts and bulletins, and other documentation.

### **Brady review**

Throughout 2019–20, the advisory committee engaged with Dr Sean Brady to discuss his Review of all fatal accidents in Queensland mines and quarries from 2000 to 2019 and considered that:

- the industry should recognise it has a fatality cycle
- this cycle is characterised by periods where a significant number of fatalities occur, followed by periods where lower numbers or no fatalities occur
- unless significant changes are made in the industry, this cycle is likely to continue
- the legislation implemented in 1999 remained effective
- that drift into failure, where the industry exhibits a greater acceptance of risk over time, is potentially evident in the Queensland mining industry at both a macro and micro level
- the mining and quarrying industry should adopt the principles of high reliability organisational theory as a mechanism to prevent drift into failure
- the characteristics that made up an high reliability organisation include
  - preoccupation with failures rather than successes
  - reluctance to simplify interpretations
  - sensitivity to operations
  - commitment to resilience
  - deference to expertise.

In line with the recommendations of the Brady review, the advisory committee commenced a standing review of quarterly serious incident data in Queensland coal mines, examining the causes of incidents and reviewing in more detail the learnings and recommendation of a selection of high potential incidents that occurred during the quarter.

The advisory committee will provide advice to the Minister on this data on an ongoing basis.

### Respirable dust

At the Minister's request, the advisory committee continued to monitor dust results quarterly and provide advice to the Minister and department about effective strategies to manage respirable dust at coal mines.

In 2019–20, the advisory committee continued to monitor trends to include respirable coal dust as well as respirable crystalline silica and respirable dust in industry dust results and dust exceedances on a quarterly basis. This quarterly review of dust results has identified that the exposure of miners to coal dust and coal dust exceedances has remained low, with average exposure rates for the year well below the workplace exposure limits. Exposure of workers to respirable crystalline silica levels has also remained well below occupational exposure limits.

The results showed that current controls are sufficient for most similar exposure groups to remain within Safe Work Australia's proposed reduced respirable coal dust and respirable crystalline silica workplace exposure limits.

### Safe Work Australia airborne contaminants review

The advisory committee has continued to work with Safe Work Australia on its review of workplace exposure standards for airborne contaminants.

In 2019–20, Safe Work Australia provided the advisory committee with a report on its support for reducing the workplace exposure limit for respirable coal dust to 1.5 mg/m³ and respirable crystalline silica to 0.05 mg/m³ (both adjusted against a standard eight hour shift). The members of the advisory committee are committed to meeting the workplace exposure limits adopted by Safe Work Australia.

The quarterly industry dust results demonstrate that preparations to move to these new workplace exposure limits is currently progressing well. However, the advisory committee considered the possible impact the reduced workplace exposure limits may have on coal mining operations and provided advice to the Minister, in particular about allowing for an appropriate transition period to provide industry with sufficient time to identify and implement effective engineering controls.

### COVID-19

The advisory committee provided advice to the Minister about concerns related to industry compliance with COVID—19 directions from the Chief Health Officer and the reporting of instances of disease in the workplace.

In forming its advice, the advisory committee consulted with the Department of Health in a joint meeting with the Mining Safety and Health Advisory Committee. The advisory committees discussed the responsibilities and obligations of coal mine and mineral mine and quarry operators and the regulator and the processes for reporting and investigating instances of non-compliance with COVID–19 health directions.

The advisory committee will continue to consult with the Department of Health in 2020–21 in relation to COVID–19 health directions and their effect on the safety and health of coal mine workers.

# Evaluation of real-time personal dust monitoring devices

The Coal Workers' Pneumoconiosis Select Committee recommended the advisory committee consider endorsing the use of the *Thermo Scientific PDM3700 Personal Dust Monitor* in surface and underground coal mines as a monitoring tool. In 2017–18, the advisory committee considered advice on the suitability of the device for use in underground coal mines and sought advice from its standards subcommittee which worked in conjunction with an industry project team and Simtars to assess the instrument's suitability for use in Queensland underground coal mines. Based on the advice received, the advisory committee did not endorse the use as it was not intrinsically safe.

In 2019–20, an industry project team presented further updates with regard to industry pursuing the next generation PDM3800 compliance monitor (IS approved) through a dedicated Australian Coal Association Research Program project. The project team outlined the opportunity for the application of continuous mass-based personal dust monitors to be viewed as a key tool to manage personal dust exposure and prevent mine dust related lung diseases in Australia, and as a compliance instrument.

While members found that they could see great value in the use of real-time monitoring devices in both reducing exposure to respirable coal dust and as a compliance instrument, measurement of dust exposure must be conducted in accordance with an accepted standard methodology in order to validate its accuracy and integrity, before it can be compared to exposure limits with any confidence. The standard adopted throughout Australia is AS2985, which aligns to the International standard (ISO7708), and defines the respirable [dust] convention. The Queensland Mines Inspectorate committed to working with industry to review and provide further feedback to the advisory committee in 2021.

### **Fatigue**

In 2019–20, the advisory committee continued to examine the impacts of fatigue on the safety and health of coal mine workers and provided further advice to the Minister on strategies that should be considered to minimise the risk to workers.

Specialist fatigue expert Professor Naomi Rogers presented to the advisory committee about whether fatigue presents an unacceptable level of risk to workers, how fatigue occurs in the coal mining industry, the gaps related to fatigue within the legislative framework, and the current application of the guidance note for fatigue risk management.

The advisory committee will further consider current data to be gathered as well as alternatives in 2020–21.

### Steel casing in horizontal wells in coal seams

The advisory committee provided advice to the Minister regarding the use of steel casing by the petroleum and gas industry for horizontal wells in coal seams.

At present, the Queensland gas industry is prohibited from using steel casing in horizontal wells in coal seams without an exemption granted by the Chief Inspector, Petroleum and Gas with the consent of the Chief Inspector, Coal Mines. Steel casing left *in situ* could create a risk of frictional ignition and other hazards associated with steel casing in an underground mine.

To ensure the continued protection of coal mine workers, the advisory committee advised that section 44 of the Petroleum and Gas (Safety) Regulation 2018 must continue to apply to all areas where there is a coal tenure. However, there should be no restriction to the use of steel casing in areas outside of a coal tenure.

# Establishing, recognising and publishing competencies

The advisory committee is responsible for establishing, recognising and publishing the competencies qualifying a person to perform the duties of a coal mining statutory position under the Act.

The advisory committee maintains a list of approved competencies which is published on the Queensland Government's Business Queensland website. There are currently 29 competencies published for the coal mining industry. This list is periodically updated to ensure that people in coal mining statutory positions have appropriate skills and knowledge to perform their duties.

In setting the competencies, the advisory committee consults broadly, including with tripartite stakeholders, other jurisdictions and training organisations.

In 2019–20, the advisory committee considered new competencies for ventilation officers.

#### Ventilation officers

The Mines Legislation (Resources Safety)

Amendment Act 2018 enacted a requirement for coal mines to appoint a suitably qualified ventilation officer. The intent of the amendment was to give the position of ventilation officer greater seniority in their role and responsibilities at underground coal mines.

In 2019–20, the advisory committee recognised and published a new competency for ventilation officers appointed at an underground coal mine. Transitional provisions allow a three-year window for coal mine operators to action this requirement

### Mine surveyors

The advisory committee considered a proposal by the Surveyors Board of Queensland and the Australian Institute of Mine Surveyors to make changes to the competencies required by a person to certify mine survey plans.

The advisory committee determined that further information and research was required before it could recommend changes to the competency. Further consideration of the proposed changes will occur in 2020–21.

### Stakeholder engagement

In 2019–20, the advisory committee consulted broadly with coal mining stakeholders, including:

- the department's Occupational Health and Hygiene Unit
- Safe Work Australia in relation to the respirable airborne contaminants occupational exposure standards review project and the impacts that may have on workplace exposure standards in Queensland
- the Department of Health in relation to COVID-19 requirements for the coal mining industry

- Anglo American Australia in relation to a risk-assessment project on a real-time dust monitoring device to determine if it is safe for use in flammable environments
- the Worksafe Queensland Consultative committee for work-related fatalities and serious incidents to explore collaborative opportunities between the advisory committee and the consultative committee
- the Surveyors Board of Queensland and the Australian Institute of Mine Surveyors in relation to the proposed competency for mine surveyors
- Simtars regarding the history and gap analysis of all subject areas considered critical for ventilation officers.

### **LOOKING AHEAD**

In 2020–21, the coal mining regulatory landscape will enter a new era with the formation of Resources Safety and Health Queensland as an independent statutory authority to regulate safety and health in the resources industry. This new regulatory body was established under the *Resources Safety and Health Queensland Act 2020* which was assented to on 19 March 2020 and commenced on 1 July 2020.

The new Act amended the sections of the *Coal Mining Safety and Health Act 1999* which outlined the functions of the advisory committee. While the role the advisory committee remains similar—to ensure evidence-based, comprehensive and independent advice to the Minister about how best to promote and protect the safety and health of persons at coal mines—the way the advisory committee must discharge those functions has seen some change.

One of the priorities for the advisory committee in 2020–21 will be interpreting the changes to the legislation and deciding how it will affect its direction as part of its required

five-year strategic plan. The advisory committee must also consider its new function to provide advice to the Minister on the performance of Resources Safety and Health Queensland and how it goes about meeting that function.

The advisory committee must also continue to examine the recommendations made in the Expert Legal Assessment CMSHA, CMSHR and Recognised Standards and provide advice to the Minister about improvements that can be made to the legislative framework.

A continuing priority for the advisory committee must also be to proactively review safety and health trends to anticipate emerging hazards, considering new technologies and critical controls, while considering the recommendations of Dr Sean Brady's report. The advisory committee, as an independent, tripartite body with considerable industry knowledge and experience, is in a unique position to provide objective and balanced advice to the Minister about the progressing of these vital reforms.

### **EXPENSES INCURRED**

Members of the committee are not entitled to any remuneration other than the reimbursement of reasonable expenses and travel allowances to attend meetings.

The total expenditure incurred by the Commissioner in 2019–20 in relation to the advisory committee was \$78,704.59 including GST.

Table 5: Expenses incurred by the Commissioner for Mine Safety and Health in relation to the Coal Mining Safety and Health Advisory Committee

Expense	Amount
Travel and accommodation	\$4971.28
Meetings (venue hire and catering)	\$3993.31
University of Queensland Expert Legal Assessment	\$69,740.00
Total	\$78,704.59

