

# ***Mining Safety and Health Legislation (Coal Workers' Pneumoconiosis and Other Matters) Amendment Regulation 2016***

Explanatory notes for SL 2016 No. 176

made under the

*Coal Mining Safety and Health Act 1999*  
*Mining and Quarrying Safety and Health Act 1999*

## **General Outline**

### **Short title**

*Mining Safety and Health Legislation (Coal Workers' Pneumoconiosis and Other Matters) Amendment Regulation 2016*

### **Authorising law**

Section 282 of the *Coal Mining Safety and Health Act 1999*  
Section 262 of the *Mining and Quarrying Safety and Health Act 1999*

### **Policy objectives and the reasons for them**

The objectives of the *Mining Safety and Health Legislation (Coal Workers' Pneumoconiosis and Other Matters) Amendment Regulation 2016* are to:

1. prescribe notifiable occupational diseases under Queensland's coal mining and mining and quarrying safety and health laws;
2. clarify coal mine worker health assessment requirements;
3. introduce voluntary respiratory and chest x-ray examinations for retiring coal mine workers; and
4. strengthen respirable dust management requirements

## *Background*

Coal workers' pneumoconiosis is a chronic occupational lung disease caused by long-term inhalation of elevated levels of coal dust, which triggers inflammation of the alveoli, eventually resulting in irreversible lung damage. In the case of coal workers' pneumoconiosis, the disease generally has a long latency period, often over several years, and can range in severity from simple to advanced. Advanced coal workers' pneumoconiosis is debilitating and often fatal.

In response to the risk of coal workers' pneumoconiosis, mine safety laws were tightened in the early 1980's and an ongoing program to survey, by chest x-ray and lung function test, all coal mine workers in Queensland was commenced. The outcome was the Rathus-Abrahams report, which recommended a permanent health scheme for coal miners. The [then] Queensland Coal Board introduced the Coal Industry Employees Health Scheme in May 1993, which subsequently resulted in the establishment of the current Coal Mine Workers' Health Scheme.

Coal workers' pneumoconiosis was believed to have been eradicated in Queensland coal mines as a result of the [then] legislative improvements and introduction of health screening schemes. However, as at 19 August 2016, there have been 14 confirmed cases of coal workers' pneumoconiosis reported in the Queensland coal industry since May 2015. These were the first cases reported in the Queensland coal industry in nearly three decades.

In January 2016, the Queensland Government released a five-point action plan to tackle the re-emergence of coal workers' pneumoconiosis. Two key action items related to investigating regulatory changes and engaging the Monash University Centre for Occupational and Environmental Health to conduct a review of the respiratory component of the existing Coal Mine Workers' Health Scheme. On 12 July 2016, the Monash University Centre for Occupational and Environmental Health review final report was released.

The matters addressed by the amendment regulation largely relate, and are in response, to the recent re-emergence of coal workers' pneumoconiosis in the Queensland coal industry.

## Prescription of notifiable occupational diseases

Both the *Coal Mining Safety and Health Act 1999* and the *Mining and Quarrying Safety and Health Act 1999* require the mandatory reporting of serious accidents, high potential incidents, deaths and certain diseases under sections 198 and 195 respectively. While high potential incidents for the purpose of notification under these Acts are prescribed under separate schedules in the *Coal Mining Safety and Health Regulation 2001* and the *Mining and Quarrying Safety and Health Regulation 2001* respectively – neither Regulation currently prescribes any diseases.

Given the lengthy latency and serious health implications from certain occupational diseases, it is considered prudent that the Mines Inspectorate within the Department of Natural Resources and Mines, as Queensland's safety and health regulator for the coal

mining and mining and quarrying sectors, be informed of the occurrence of such diseases.

By prescribing certain occupational diseases, the amendment regulation will require site senior executives to notify the Mines Inspectorate when they become aware of occurrences of the prescribed occupational diseases. The notification is under existing provisions of the respective Acts.

#### Clarification of health assessment requirements

The current Coal Mine Workers' Health Scheme is regulated under chapter 2, part 6, division 2 of the *Coal Mining Safety and Health Regulation 2001* and requires Queensland coal mine workers to undergo a health assessment prior to commencing employment and then periodically (at least once every five years) during their employment. Medical examinations are performed under the supervision of a nominated medical adviser engaged by the employer.

Specific requirements regarding health assessments (e.g. such as the type of medical examinations to be undertaken) are not addressed under the *Coal Mining Safety and Health Regulation 2001*, but are outlined in the health assessment approved form.

Further, when a coal mine worker is sent for a health assessment under the current Coal Mine Workers' Health Scheme, the employer must specify whether the worker is "at risk from dust exposure" in section 1 of the approved form. It is only this determination of a worker's exposure risk by the employer, which triggers the requirement for a chest x-ray examination as part of the coal mine worker's health assessment. Unfortunately, the current approach has not resulted in the consistent use of chest x-ray examinations, which are intended to assist in screening coal mine workers (particularly underground workers) for early signs of respiratory disease.

Additionally, current regulatory requirements do not specify that a person undertaking a medical examination is required to be competent to do so (as this was considered implicit), nor do current regulatory requirements require chest x-ray examinations to be assessed to a particular standard. These matters were identified through the Monash University Centre for Occupational and Environmental Health review which made a total of 18 recommendations for change.

Given the serious health risks associated with coal mining (e.g. coal workers' pneumoconiosis), the effects of which generally have a long latency period – action is needed to address key health assessment matters by regulation.

The amendment regulation will ensure that key health assessment matters, such as in relation to respiratory and chest x-ray examinations are clarified by regulation and that medical assessments are undertaken appropriately.

#### Voluntary respiratory and chest x-ray examinations for retiring coal mine workers

The Coal Mine Workers' Health Scheme requires coal mine workers to have a pre-employment health assessment and then periodic health assessments at least once

every five years of their employment. However, there is no current obligation for a final health assessment for retiring coal mine workers.

Respiratory function and chest x-ray examinations at retirement may be critical in identifying early signs of coal mine workers' lung disease (including coal workers' pneumoconiosis). Therefore retiring coal mine workers should be provided the opportunity to undertake these health examinations at retirement should they wish to do so.

The amendment regulation will ensure that retiring coal mine workers who have not recently had a respiratory function examination and chest x-ray examination, are afforded the opportunity to undertake these health examinations at retirement.

### Strengthening respirable dust management requirements

During 2014-15, the Mines Inspectorate undertook an independent review of dust monitoring data from Queensland's coal mines to identify non-compliances (the Mines Inspectorate dust review). The dust review results showed that while most mines had good dust management plans and monitoring programs in place, they sometimes failed at the implementation stage (i.e. reviewing and acting on the exposure data in order to improve dust management at the site). The dust review results also showed an overreliance on the use of personal protective equipment for controlling workers' exposure to respirable dust at some sites.

The dust review process highlighted difficulties in determining whether a mine complies with regulatory limits through visual observation or by reviewing a singular set of monitoring results. In practice, between six to ten samples are required for the establishment of a statistically significant exposure profile for similar exposure groups. For example, having one sample over the regulatory limit does not necessarily indicate a mine is non-compliant.

Moreover, the dust review was undertaken using existing general legislative provisions to request the required dust monitoring from mine operators. This was achieved via a letter to each mine operator requesting the required information (with statutory powers available under the *Coal Mining Safety and Health Act 1999* where cooperative arrangements fail). While reasonably effective in this instance, it is an inefficient means for obtaining this information on an ongoing basis, which is necessary for effectively monitoring industry compliance with safety and health laws.

Under risk based legislation, it is the mine's responsibility to review exposure data and act on the results; however, the Mines Inspectorate must also be able to effectively assess compliance with Queensland's mining safety and health laws and to take action (as necessary) to ensure the safety and health of mine workers.

The dust review highlighted that to enable the Mines Inspectorate to effectively assess compliance, it is necessary to establish a dataset which collates exposure profiles for various similar exposure groups at a particular mine over time (which may then be compared against regulatory concentration limits to assess a mines' compliance). Accordingly, an effective requirement for the ongoing collection of dust monitoring results is required to achieve this.

The *Coal Mining Safety and Health Regulation 2001* requires the safety and health management system for a coal mine to provide ways of ensuring each coal mine worker's exposure to respirable dust at the mine is kept to an acceptable level; and to ensure the worker does not breathe an atmosphere at the mine containing respirable dust exceeding the prescribed concentration (i.e. an average concentration equivalent to 3mg/m<sup>3</sup> for coal dust and 0.1mg/m<sup>3</sup> air for free silica for an 8-hour period).

Where the average concentrations cannot be reduced to the prescribed levels, the *Coal Mining Safety and Health Regulation 2001* requires that the controls for minimising dust must be reviewed. However, the *Coal Mining Safety and Health Regulation 2001* then states that if average concentrations still cannot be reduced to the prescribed levels (i.e. following the review process) – personal protective equipment must be supplied for use by persons in the work environment.

The current regulatory wording around dust controls is ambiguous regarding the use of personal protective equipment where dust levels exceed prescribed levels (the inference being that using personal protective equipment is an acceptable control measure). This is inconsistent with intent of the control and management of risk obligations under the *Coal Mining Safety and Health Act 1999* which requires risk to a person from coal mining operations to be at an acceptable level (i.e. within acceptable limits; and as low as reasonably achievable).

Personal protective equipment is clothing, equipment or substances designed to be worn by someone to protect them from risks of injury or illness. Personal protective equipment is the least effective method of controlling a safety risk and does not control the hazard at the source. Personal protective equipment is reliant on its proper use by workers and requires strict compliance to be effective. In reality, compliance with personal protective equipment requirements is known to be problematic; particularly in environments where wearing personal protective equipment may exacerbate other issues such as heat (e.g. personal protective equipment clothing in environments that are already warm such as underground mines).

Consequently, the control of exposure to risks of respirable dust should be secured by one or more stronger control measures other than just through the provision of personal protective equipment. Personal protective equipment could be used to supplement higher-level control measures, or as a short-term control during unforeseen circumstances/events (e.g. for safe recovery of personnel/equipment). Personal protective equipment should not be relied upon as a long-term control.

The amendment regulation will ensure dust management requirements are strengthened to require system improvements to address elevated dust levels, regular reporting of dust monitoring data to the Mines Inspectorate and reporting if respirable dust levels are exceeded.

#### Correction of minor drafting errors

In April 2010, the *Mines and Energy Legislation Amendment Act 2010* changed the name of the [then] "Coal Mining Safety and Health Advisory Council" established under the *Coal Mining Safety and Health Act 1999* to the 'Coal Mining Safety and Health

Advisory Committee'. A similar name change also occurred for the 'Mining Safety and Health Advisory Council' established under the *Mining and Quarrying Safety and Health Act 1999*.

While the *Mines and Energy Legislation Amendment Act 2010* changed all related references from 'the council' to 'the committee' in both mining Acts, subsequent regulatory amendments were not made. Accordingly, there are still references to the 'the council' within the meaning of *recognised competency* at schedule 9 of the *Coal Mining Safety and Health Regulation 2001* and in schedule 7 of the *Mining and Quarrying Safety and Health Regulation 2001*. Both of these errors within the respective regulations seem to have been a drafting error/oversight.

## **Achievement of policy objectives**

### Prescription of notifiable occupational diseases

To achieve its objectives, the amendment regulation will amend the *Coal Mining Safety and Health Regulation 2001* to prescribe 'chronic obstructive pulmonary disease', 'coal workers' pneumoconiosis', 'legionellosis' and 'silicosis' as occupational diseases for the purpose of notification under section 198(6) of the *Coal Mining Safety and Health Act 1999*. Similarly, the amendment regulation will amend the *Mining and Quarrying Safety and Health Regulation 2001* to prescribe 'asbestosis', 'chronic obstructive pulmonary disease', 'legionellosis', 'occupational asthma', 'occupational cancer' and 'silicosis' for the purpose of notification under section 195(6) of the *Mining and Quarrying Safety and Health Act 1999*.

This way of achieving the objectives is reasonable and appropriate because the respective Acts already contain provision for the notification of diseases under a regulation; and the prescription of such diseases in the respective regulation facilitates the intent of existing Act provisions. The State government action is effective and proportional to the issue being addressed as it provides for an appropriate way to ensure the Mines Inspectorate is proactively informed by site senior executives about occurrence of prescribed diseases.

### Clarification of health assessment requirements

To achieve its objectives, the amendment regulation will amend the *Coal Mining Safety and Health Regulation 2001* to require:

- all pre-employment health assessments to include respiratory function and chest x-ray examinations to establish a suitable medical baseline for comparison with future results;
- respiratory function and chest x-ray examinations occur at least once every 10 years for aboveground coal mine workers and at least once every 5 years for current (and former) underground coal mine workers;
- respiratory function examinations undertaken as part of periodic health assessments to also include a comparative assessment with previous respiratory function results (as available) so any changes may be identified as early as possible;

- all medical examinations be performed by persons qualified and competent to conduct the examinations; and
- x-ray examinations be performed in accordance with the International Labour Organization *Guidelines for the Use of the ILO International Classification of Radiographs of Pneumoconioses*.

The ways of achieving the objectives outlined above are reasonable and appropriate because the changes introduced reduce ambiguity associated with respiratory function and chest x-ray examinations and formalise good industry practice. The State government action is effective and proportional to the issue being addressed as consistent and quality monitoring of coal mine workers is crucial for the timely identification of possible early signs of respiratory disease.

#### Voluntary respiratory and chest x-ray examinations for retiring coal mine workers

To achieve its objectives, the amendment regulation will amend the *Coal Mining Safety and Health Regulation 2001* to provide for new retirement examination provisions which will require the employer to arrange and pay for a final respiratory function examination and chest x-ray examination for eligible retiring coal mine workers (if requested by the retiring worker). This new obligation on the employer will apply for retiring coal mine workers who have worked in the industry for at least a total of three years and who have not had respiratory function and chest x-ray examinations as part of a health assessment in the past three years. The amendments will specify that a retirement examination (if asked for) is to occur during the six month period that begins three months before the person retires. This six month timeframe (i.e. three months either side of the retirement date) should provide sufficient opportunity for an eligible retiring coal mine worker to attend the retirement examination, should they elect to do so.

This way of achieving the objectives is reasonable and appropriate because it was developed in consultation with industry and unions and is a suitable first step towards improving health screening for retiring coal mine workers. The State government action is effective and proportional to the issue being addressed as it provides a voluntary health screening solution for retiring coal mine workers which concentrates on the two key respiratory health examinations.

#### Strengthening respirable dust management requirements

To achieve its objectives, the amendment regulation will amend the *Coal Mining Safety and Health Regulation 2001* to require:

- regular reporting of respirable dust monitoring records, including at least once every three months for development and longwall operations and as required under a recognised standard for all other areas at a coal mine;
- notification if respirable dust concentrations exceed prescribed levels;
- review of dust control measures and safety and health management system changes to ensure elevated dust levels are reduced to within prescribed levels; and
- resampling within two weeks to check the effectiveness of the revised dust control measures (and notification of any continued elevated respirable dust concentrations).

The ways of achieving the objectives outlined above are reasonable and appropriate because the amendments will result in two key changes in relation to respirable dust management. Firstly, the introduction of regular reporting of dust monitoring data which will assist the Mines Inspectorate to better monitor industry performance in relation to dust control.

Secondly, ensuring safety and health management systems focus on system improvements to address any elevated respirable dust levels by encouraging the use of higher-level control measures (e.g. elimination, engineering controls, etc.) and removing the potential for long-term reliance on low-level administrative controls such as personal protective equipment.

The government action is effective and proportional to the issue being addressed as it provides a regulatory framework to help foster continuous improvement to respirable dust management in Queensland coal mines. This is critical to ensuring Queensland's coal mine workers are not exposed to dangerous levels of respirable dust which could lead to long-term health effects.

#### Correction of minor drafting errors

To achieve its objectives, the amendment regulation will amend the *Coal Mining Safety and Health Regulation 2001* to correct the reference to 'the committee' within the meaning of *recognised competency* at schedule 9. The amendment regulation will also amend the *Mining and Quarrying Safety and Health Regulation 2001* to correct the reference to 'the committee' at schedule 7. The government action is effective and proportional to the issue being addressed as it corrects a drafting error from 2010.

## **Consistency with policy objectives of authorising law**

The amendment regulation is consistent with the main objects of the *Coal Mining Safety and Health Act 1999*, which is to—

- (a) protect the safety and health of persons at coal mines and persons who may be affected by coal mining operations; and
- (b) require that the risk of injury or illness to any person resulting from coal mining operations be at an acceptable level; and
- (c) provide a way of monitoring the effectiveness and administration of provisions relating to safety and health under this Act and other mining legislation.

The amendment regulation is consistent with the main objects of the *Mining and Quarrying Safety and Health Act 1999*, which is to—

- (a) protect the safety and health of persons at mines and persons who may be affected by operations; and
- (b) require that the risk of injury or illness to any person resulting from operations is at an acceptable level.

## **Inconsistency with policy objectives of other legislation**

The amendment regulation is consistent with the policy objectives of other legislation.

## **Benefits and costs of implementation**

### Prescription of notifiable occupational diseases

The prescription of certain occupational diseases in the *Coal Mining Safety and Health Act 1999* and *Mining and Quarrying Safety and Health Regulation 2001* is not expected to have a considerable cost impact on industry or on health service providers as the number of notifications required as a result is expected to be relatively small. The benefit of the requirement is that the information gained from the notification of certain occupational diseases will, over time, help to build a greater understanding of such health related matters associated with the coal mining and mining and quarrying industries.

### Clarification of health assessment requirements

The clarification and prescription in regulation of health assessment requirements, particularly in relation to respiratory and chest x-ray examinations, are consistent with current industry and community expectations. Further, the changes are not expected to significantly increase compliance costs for the mining industry. Industry, workers and government are expected to benefit from reducing ambiguity and promoting the consistent application of health assessment requirements (e.g. medical examinations being carried out by qualified and competent persons, comparing current with previous respiratory examination results, etc.). Moreover, requiring chest x-ray examinations be performed in accordance with the International Labour Organization guidelines, will ensure greater screening consistency which will benefit workers and industry.

### Voluntary respiratory and chest x-ray examinations for retiring coal mine workers

The introduction of a voluntary retirement examination for eligible coal mine workers is expected to increase compliance costs for the coal mining industry depending on the level of adoption by retiring workers. However, the overall benefits are expected to outweigh the cost increases to industry as the retirement examinations will help identify retiring workers which may potentially show early signs of respiratory disease and serve as a suitable medical baseline should further health monitoring be required after retirement.

Moreover, the potential costs to industry, must be considered in the context of the potential benefits to coal mine workers, their families and the community from the early detection of potential respiratory issues.

### Strengthening respirable dust management requirements

The changes to require operators to ensure dust levels are kept to existing regulatory acceptable levels (i.e. ensure the worker does not breathe an atmosphere at the mine

containing respirable dust exceeding an average concentration equivalent to 3mg/m<sup>3</sup> for coal dust and 0.1mg/m<sup>3</sup> air for free silica for an 8-hour period) without reliance on personal protective equipment, may increase the cost of compliance for some operators. However, this is expected to be relatively minor, as all 12 of Queensland's operating underground coal mines are understood to be currently operating within the prescribed dust limits.

The changes broadening the matters to be addressed under a coal mine's safety and health management system with respect to dust will improve the way respirable dust hazards are managed in Queensland coal mines. Improved reporting requirements will ensure the Mines Inspectorate has information required for effective regulation of safety and health in Queensland's coal mining sector.

#### Correction of minor drafting errors

There are no costs associated with the correction of minor drafting errors.

In summary, while some cost increases, particularly for the coal mining industry, are expected as a result of the changes introduced through the amendment regulation, the collective benefits to industry, workers and the community outweigh the related costs. Moreover, the potential cost of inaction (particularly in relation to addressing the coal workers' pneumoconiosis issue) is expected to be far greater for all concerned in the long-term if decisive action is not taken.

## **Consistency with fundamental legislative principles**

The amendment regulation is consistent with the fundamental legislative principles set out in section 4 of the *Legislative Standards Act 1992*.

## **Consultation**

Substantial consultation on the proposed amendments to the *Coal Mining Safety and Health Regulation 2001* was undertaken with the Coal Mining Safety and Health Advisory Committee between March and July 2016. The Coal Mining Safety and Health Advisory Committee is representative of coal mine operators, industry workers and the Mines Inspectorate. The Construction, Forestry, Mining and Energy Union, the Electrical Trades Union and the Queensland Resources Council are represented on the Coal Mining Safety and Health Advisory Committee.

The Coal Mining Safety and Health Advisory Committee was directly involved in preparing and refining the proposed amendments between April and July 2016, during which time all major issues for initial implementation were satisfactorily resolved. The regulatory changes made by the amendment regulation are supported by the Coal Mining Safety and Health Advisory Committee.

Consultation on the proposed amendments to the *Mining and Quarrying Safety and Health Regulation 2001* was undertaken with the Mining Safety and Health Advisory

Committee which is representative of mine and quarry operators, industry workers and the Mines Inspectorate. The regulatory changes made by the amendment regulation are supported by the Mining Safety and Health Advisory Committee.

The Office of Best Practice Regulation within the Queensland Productivity Commission was consulted regarding the Regulatory Impact Statement system. The Office of Best Practice Regulation considered that while the proposed amendments are likely to result in an adverse impact on mine operators, the impacts are unlikely to be significant. The Office of Best Practice Regulation determined that further analysis under the Treasurer's Regulatory Impact Statement system guidelines is not required at this stage. As such, a Regulatory Impact Statement is not required. In relation to the correction of minor drafting errors, the Office of Best Practice Regulation determined that these were excluded from further assessment under the Regulatory Impact Statement system guidelines.

The Office of the Queensland Parliamentary Counsel was consulted and prepared the amendment regulation.