14 February 2020

Department of Natural Resources, Mines and Energy

Via minershealth@dnrme.qld.gov.au

Dear Sir/Madam

Re: proposed changes to the *Mining and Quarrying Safety and Health Regulation 2017(Qld.)*

Thank-you for the opportunity to provide comment on proposed changes to the *Mining and Quarrying Safety and Health Regulation 2017(Qld.)* We understand that the proposed amendments would essentially extend the arrangements in place for respiratory health screening for coal miners, to all mineral and quarry workers in Queensland.

Queensland mineral mine and quarry workers may be exposed to a range of respiratory hazards including mineral dust, welding fumes and diesel particulates. There are numerous respiratory health consequences, associated with exposure to these substances, including silicosis, emphysema and lung cancer. Not all workers will develop these diseases, the risk of disease increases with long term or repeated high-level exposure.

Early detection of disease through appropriate screening provides the best possible chance for individuals to take measures – in conjunction with their employers and medical professionals – to protect their health, arrest or manage disease, and continue to earn a living.

However, there are some concerns with the proposed regulation:

- chest x-rays are not the best diagnostic option, for baseline and review screening;
- allowing Site Senior Executives (SSEs) of mines/operations to determine who a low-risk worker is, could result in differing approaches to determining at risk workers at different mines/sites (in the absence of further education/guidance); and
- the 12 month transition period to screen all current mineral mine and quarry workers may place undue strain on miners, health professionals, and employers.

We emphasise that health surveillance must not take the place, nor should be considered a factor, to mitigate or eliminate risk. The primary duty of care, to ensure a safe workplace, must remain the focus of employers and employees. In this regard we commend the recently released Brady Review (Review of all fatal accidents in Queensland mines and quarries from 2000 to 2019) and its assessments and recommendations, in particular, the recommendations related to better training of

employees and ensuring there is *implementation* of effective controls (such as elimination, substitution, isolation or engineering controls).

We also encourage the Department of Natural Resources, Mines and Energy (DNRME) to consult with the Federal Dust Diseases Taskforce and Cancer Australia (currently conducting an inquiry into lung cancer screening), as there is an opportunity to create a nationally consistent lung health screening program, which includes workers at risk of occupational lung disease.

The following comments and suggestions address the discussion questions raised in the DNRME consultation paper.

1. *Are the proposed amendments clear in detailing the requirements for respiratory health surveillance?*

Yes – the amendments clearly specify that a:

> *respiratory health examination*, for a person, means each of the following—
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> (a) a chest examination;
> (b) a spirometry;
> (c) a comparative assessment of the person's spirometry if the results of 1 or more previous spirometries for the person are available;
> (d) a chest x-ray examination;
> (e) a further reading of the chest x-ray the subject of the examination under paragraph (d);
> (f) another examination the relevant appropriate doctor considers is necessary for the early detection of injury or illness to the person's respiratory system.
>
> *respiratory health surveillance*, for a person, means health surveillance that includes all of the respiratory health examinations for the person

These activities are well understood by medical professionals. However, we note the comments made by the Queensland Audit Office (QAO) when reviewing the identical regulations regarding coal workers[1]. With respect to supporting doctors to deliver spirometry for coal mine workers, the QAO noted that:

> "There are still opportunities for DNRME to improve doctors' training. These areas include ensuring doctors accurately complete health assessment forms and providing better guidance to support workers returning to work"[2].

We recommend, in addition to strengthening training for doctors approved as appointed medical advisers (AMA's), that additional support will be provided to doctors to ensure they understand: the types of mineral mines and quarries, the composition of rocks and soils and how that may impact on health, the activities conducted at these mines and quarries, the sources of dust in these workplaces, and control measures practiced in each mine or quarry. These factors influence disease.

We do not support the proposed use of chest X-Rays, as the principal and only authorised method, for establishing both baseline lung health and detecting changes in lung health.

Chest X-rays are failing to reliably detect occupational lung disease for workers in the engineered stone industry. In one cohort of Queensland workers in the engineered stone industry, **43%** with ILO (International Labour Organisation) classified normal chest x-rays, **had disease visible on CT** [scans][3]. Royal Australian and New Zealand College of Radiologists (RANZCR) have advised that CT has replaced the chest X-Ray in the diagnosis of non-occupational diffuse lung diseases and has recommended low dose CT for use in occupational lung diseases[4]. RANZCR further state that while "historically chest x-ray has been the primary imaging modality used to detect lung disease due to silica exposure, CT has a higher sensitivity for detecting early disease and greater accuracy in characterising the patterns of disease."

In Queensland between 2017 – 2019 there were 277 **reported** exceedances of the occupational exposure limit for respirable dust and silica in mineral mines and quarries; **243** of these exceedances were for **silica.** Many mineral mines and quarries will generally have a higher quartz (silica) content than coal mines. For example, the Ravenswood gold/copper field has a high silica content. We note there is no safe level of exposure to respirable silica dust. And the current exposure standard for silica is under review.

The Monash Review found that poor quality of chest x-rays (CXR) contributed to ***over-diagnosis*** of simple pneumoconiosis; the original diagnosis of simple pneumoconiosis was overturned by a subsequent CT. A US study of miners and millers exposed to asbestos fibres, found that CXR compared to thin-section CT was associated with false-positives for asbestos diseases and false-negatives for pleural plaques in miners and millers with decreasing levels of asbestos exposure[5].

Whilst we note that DNRME is monitoring the quality of chest x-rays for coal miners, and presumably this will occur for mineral miners and quarry workers, we consider that the very distressing possibility of over-diagnosis of certain diseases for new entrants and existing workers, coupled with best-practice RANZCR advice, regarding under diagnosis for other diseases, supports the use of low dose CT for an accurate picture of lung health, rather than chest X-Ray for workers in mineral mines and quarries.

We note and echo the comments made by the QAO with respect to the coal miners health surveillance scheme that "to retain the focus on medical health surveillance, rather than on fitness for work, DNRME needs to reconsider the Monash review and CWP Select Committee recommendations to introduce clinical governance over the health scheme. While there is evidence of DNRME consulting with a range of stakeholders, including medical professionals, over the last three years, there has been no designated medical expert or any expert group that has had formal responsibility for overseeing the scheme or to monitor the impact of all the changes over the last three years.[6]"

This proposed regulation, effectively extending the coal miners scheme to a new class of workers, also requires clinical oversight.

We note DNRME is proposing to establish a medical advisory committee to obtain overall clinical and health policy advice for the coal miners health scheme. This committee is not anticipated to be in place until 2020. We support the timely establishment of an independent expert clinical governance committee to oversee

the "miners" health surveillance scheme and ensure that the regulations, whether for coal workers, mineral miners or quarry workers, reflect current best-practice.

2. Is the proposed approach to exclude low risk workers appropriate and workable in practice?

Under the proposed regulations respiratory health surveillance is mandatory for all workers at mineral mines and quarries ***unless*** a risk assessment, completed by the Senior Site Executive (SSE) at the mine, demonstrates their exposure to the hazards creates a risk so low, that health surveillance is not required[7]. There is no clear definition provided for "low risk workers" in the proposed regulations. Additional guidance on determining risk is provided by regulation 8 of the *Mining and Quarrying Safety and Health Regulation*; hazard identification and reduction or mitigation through the hierarchy of controls.

The new regulation is likely to operate in a manner similar to regulations 44 and 46, of the *Coal Mining Safety & Health Regulation 2011*(Qld). Under these regulations a coal mine worker carrying out a low risk task at a coal mine is not required to undergo health surveillance. The *Coal Mining and Safety & Health Regulations* define a "low risk task" as a task shown by a risk assessment to create a risk that is ***so minimal*** it can be managed effectively without requiring the worker to undergo a health assessment.

With respect to the operation of those regulations and low risk workers, the QAO noted that "by comparison, for other coal workers, work health and safety laws require employers to determine whether there is a risk to the employee's health by: identifying the risk of dust exposure, determining if dust monitoring is required, and determining if health assessments should be provided."

As noted by the QAO "work health and safety laws rely on employers understanding the risk of occupational dust exposure so they can protect the health of their workers. *To ensure a consistent approach by employers across the industries, it is important they are made aware of, and receive training to understand, the risks of occupational dust exposure.*[8]"

We support this comment and encourage DNRME to ensure there is appropriate education and training for employers and employees, that builds upon the transparent collaboration between industry, workers, unions and health organisations that commenced with the coal mining inquiries and continued with the Dust Diseases Taskforce.

We strongly recommend that SSEs receive information and education from clinicians and other experts on the causes and impacts of lung disease and independent support and advice to, firstly, determine and adopt best practice actions to ***assess, mitigate and eliminate risk*** for ***all*** workers. In turn this may assist in identifying who is a 'low risk worker' for the purposes of health screening.

However, we have concerns that in absence of training, support and guidance monitoring this regulation will result in an inconsistent and risky approach across industry to determining whether there are low risk workers at a mine or quarry.

3. Are the transitional arrangements appropriate and workable?

The proposed regulations provide for a twelve month period in which the SSE of a mine or quarry must arrange for health surveillance for workers who have never had health or respiratory surveillance that aligns with the regulations, and/or conduct any missing examinations from previous health surveillance which partially aligns with the proposed health surveillance[9].

There are 14,034 mineral miners and 1,760 quarry workers in Queensland. It is unknown, at least publicly, how many of these workers have valid or partially valid health screening for the purposes of the proposed regulations.

There are 98 doctors[10] registered as 'supervising' or appointed medical advisers (AMA) in Queensland. Under the proposed regulations health surveillance must be reviewed by the AMA. This is appropriate.

We note that the QAO found that several recommendations from the Monash Review specifically relating to coal miner's health screening are currently only partially implemented. The QAO advise that there is a need to: update the current health assessment form to ensure that questions regarding past respiratory conditions are collected, revise the formal training program for authorised doctors, establish clinical audits of CXR's, establish and maintain a secure electronic records management system to keep assessments and ensure ongoing assessment occurs in accordance with the regulations.

We are concerned that replicating the incomplete coal miner's health surveillance system may compound existing issues, and place undue strain on miners, health professionals, and employers.

4. Are there any particular matters that should be covered in guidance material?

YES. A comprehensive suite of supporting materials must be available for all stakeholders affected by the regulations. For example, as noted above, there must be clinical guidance for treating physicians, information on the nature and cause of occupational lung disease must be provided to employers and employees and workers must have information on their rights and responsibilities regarding health screening eg. access to medical reports, second opinions.

5. Are there any potential unintended consequences associated with the amendment to allow examinations to be delayed?

Under the proposed amendments, the regulations allow an AMA to delay an examination if the AMA considers the risk to any person from delaying an

examination to be lower than the risk to the coal mine worker undergoing the examination of an adverse health effect of the examination.

The note to this regulation provides the example of allowing for a delay in conducting a chest x-ray on a pregnant worker.

This regulation allows ***all or part*** of a respiratory health examination to be delayed by 12 months on the advice of an AMA. This appears to be a practical and appropriate short-term exemption, however, there must be robust clinical guidance to support decision makers and the regulation should be subject to a mandatory review after 24 months or on advice from the clinical governance committee.

To implement a successful state-wide health surveillance program, we encourage the Department to consider creating a mobile CT screening facility (ie. a truck!). This may facilitate timely and cost-effective screening for rural and remote miners. It may be appropriate to explore a public/private partnership to establish this service.

We are happy to discuss our comments with you to support changes to the proposed regulation and ensure successful implementation of occupational lung health surveillance.

Yours sincerely,

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CEO, Lung Foundation Australia

Chris McMillan
CEO, Cancer Council Queensland

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[1] The State of Queensland (Queensland Audit Office) Report 9:2019-20 Addressing mine dust disease, available under CC BY-NC-ND 3.0 Australia. Online at https://www.qao.qld.gov.au/reports-resources/reports-parliament/addressing-mine-dust-lung-disease
[2] Ibid, p. 27.
[3] *Position Statement; Imaging of Occupational Lung Disease*, The Royal Australian and New Zealand College of Radiologists, 4 October 2019.
[4] See Ibid.
[5] Terra-Filho, Mario, et al. "Screening of Miners and Millers at Decreasing Levels of Asbestos Exposure: Comparison of Chest Radiography and Thin-Section Computed Tomography." *PLoS ONE*, vol. 10, no. 3, 2015, p. e0118585, p.10.
[6] Ibid, p. 10.
[7] Draft Regulation 145C
[8] Ibid 1. P. 39
[9] Regs. 171, 172
[10] See: https://www.dnrme.qld.gov.au/business/mining/safety/registered-medical-search