

# Mining and Quarrying Safety and Health (Lead) Amendment Regulation 2023

Explanatory notes for SL 2023 No. 71

made under the

*Mining and Quarrying Safety and Health Act 1999*

## General Outline

### Short title

*Mining and Quarrying Safety and Health (Lead) Amendment Regulation 2023*

### Authorising law

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

### Policy objectives and the reasons for them

The *Mining and Quarrying Safety and Health Act 1999* establishes a legislative framework aimed at (a) protecting the safety and health of persons at mines and persons who may be affected by mining operations; and (b) requiring that the risk of injury or illness to any person resulting from mining operations be at an acceptable level.

The *Mining and Quarrying Safety and Health Regulation 2017* (MQSHR) supports the operation of the *Mining and Quarrying Safety and Health Act 1999* by prescribing ways of protecting the safety and health of persons at mines.

The objectives of the *Mining and Quarrying Safety and Health (Lead) Amendment Regulation 2023* (the Amendment Regulation) are to amend the MQSHR to improve the risk control of lead and lead health surveillance of workers at mineral mines, lowering the risk to workers of adverse health outcomes from lead. Lead health surveillance will be improved by lowering allowable blood lead levels for workers.

Lead is a hazard at lead and zinc mines. The health of workers at lead and zinc mines (where lead processes occur) must be adequately protected from lead hazards from lead processes and during lead risk jobs. Controlling the exposure to lead reduces the risk of harm to the health of workers.

When lead is produced or processed in a way that produces lead dust or fumes, it is a risk to health in several significant ways. Even small amounts can be toxic when ingested, absorbed or inhaled.

At particular blood lead levels, lead has a wide range of biological effects particularly for pregnant women, including on the developing foetus and the subsequent intellectual development of young children. Other adverse biological effects at particular blood lead levels for all workers include carcinogenicity, nervous system abnormalities and increased risks for cardiovascular disease. These effects are directly related to the concentration of lead in the individual's affected organ systems.

Workers are exposed to lead at mineral mines mainly through ingestion via hand to mouth transfer and inhalation of lead particulates in air containing lead dust or fumes. Once in the body, lead circulates in the blood and can remain in tissues, bones and organs.

The health of workers at lead and zinc mines must be adequately protected. Controlling workers' risk of exposure to lead, reduces the risk of harm to the health of workers.

Biological monitoring (blood lead level testing) is the key method of measuring exposure to lead and is part of lead health surveillance. The purpose of biological monitoring is to detect any individual who may be at risk of adverse health effects, due to blood lead levels and to monitor the effectiveness of the risk management strategies that have been applied, through measuring subsequent blood lead levels.

Risk management controls include strict hygiene controls, monitoring airborne exposure and reducing blood lead levels when necessary by removing workers from lead risk jobs.

Following a national regulatory impact statement (RIS) process, Safe Work Australia (SWA) recommended that jurisdictions across Australia prescribe lower limits for blood lead levels and airborne exposure. This followed analysis by SWA from 2011 to 2016 which indicated that the then blood lead level standards across Australian jurisdictions did not compare well to international standards.

Current MQSHR requirements do not provide the improved regulatory protection recommended by SWA for workers and require updating.

Minimum regulatory standards in the MQSHR need to be updated to ensure better health outcomes and protections for workers undertaking lead risk jobs.

Requirements for lead risk controls, the frequency of biological monitoring, removing a worker from a lead risk job, returning a worker to a lead risk job based on blood lead levels and keeping health surveillance records have historically been in the National Occupational Health and Safety Commission (NOHSC) standard, guidance notes and code of practice.

The references in the MQSHR to the NOHSC "National Standard for the Control of Inorganic Lead at Work [NOHSC: 1012]" which covers risk management requirements, including providing information about lead hazards; control of lead risks; frequency of biological monitoring; blood lead levels; removing a worker from a lead risk job;

returning a worker to a lead risk job; and keeping medical records are outdated. This has occurred because the NOHSC standard and National Code of Practice for the Control and Safe Use of Inorganic Lead at Work [NOHSC:2015(1994)](code) are no longer updated nationally. Similarly, the references in the MQSHR to NOHSC's "Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment 3<sup>rd</sup> edition [NOHSC:3008 (1995)]" are outdated.

The national requirements are now instead updated as regulations through the SWA Model Work Health and Safety Regulations and in the SWA airborne contaminants standards and guide.

## **Achievement of policy objectives**

The Amendment Regulation achieves its objectives by amending the MQSHR to improve the regulation of lead risk controls and improve lead health surveillance.

The Amendment Regulation updates blood lead levels and airborne exposure standards to align with current SWA recommended lower blood lead levels and airborne exposure standards. References to the relevant NOHSC standard and guidance note are removed.

Requirements related to lead risk management and lead health surveillance are now covered in the Amendment Regulation and are similar to the current relevant sections in SWA's Model Work Health and Safety Regulations. SWA's airborne contaminants standards and guide are referenced for airborne exposure limits. These requirements are combined with mining and quarrying safety and health framework specific requirements including reporting of high potential incidents and prescribed diseases. Medical removal of a worker from a lead risk job due to blood lead level exceedance will be a high potential incident.

The Amendment Regulation implements significantly lower blood lead level requirements:

- for the identification of a lead risk job
- in relation to last biological monitoring blood lead levels that determine the frequency of biological monitoring
- for removal of a worker from a lead risk job and
- for return of a worker to a lead risk job.

Blood lead levels in workers must be reduced when necessary by removing them from lead risk jobs and through appropriate controls, including adhering to strict hygiene procedures until their blood lead levels are sufficiently reduced.

The Amendment Regulation also confirms that female workers who are pregnant, may be pregnant or are breastfeeding, must be removed from lead risk jobs, as there is now no allowable blood lead level.

The exposure limit for airborne lead monitoring is reduced from 0.15mg/m<sup>3</sup> to 0.05mg/m<sup>3</sup>. The Amendment Regulation also updates schedule 5 covering general exposure limits for hazards.

The Amendment Regulation requires risk management controls. Controlling hand-to-mouth ingestion of lead is critical. Controls include providing information about health risks of lead exposure to workers, restricting eating and drinking in lead process areas, providing change room and washing facilities, laundry requirements for personal protective equipment contaminated with lead, as well as biological monitoring and blood lead removal level controls. Control measures must be reviewed in specific circumstances, to improve the effectiveness of controls.

The Amendment Regulation also consolidates existing requirements for general health surveillance and respiratory health surveillance, with the improved lead health surveillance requirements, by locating all health surveillance sections in a new schedule 2E. Sections covering general health surveillance and respiratory health surveillance are renumbered but not substantially changed in any way.

The amendments also include requirements for notifying the chief inspector, in the approved form, of lead risk jobs, changes to lead risk jobs, lead health surveillance of workers, removal of a worker from a lead risk job, returning of a worker to a lead risk job and additional information about a worker diagnosed with a disease.

Information provided in the approved form will significantly improve data collection related to lead health surveillance. It will enable any adverse trends in lead hazard management to be identified at any particular mines or in any particular lead risk jobs, so that more effective, data driven audits and inspections at mines can be conducted by inspectors.

The amendment of section 120 to clarify data collection related to lead health surveillance is based on the similar approach in the SWA Model Work Health and Safety Regulation, which provides that a worker's written consent is not required prior to a worker's health monitoring report being provided to the regulator.

Comprehensive transitional provisions cover all of the changes related to lead health surveillance. A key transitional provision in section 182 provides that the lower biological monitoring blood lead level requirements apply from the next scheduled biological monitoring of a worker, after 1 September 2023.

Section 181 transitions former relevant provisions. This for example, includes ensuring health surveillance reports that were required to be kept under former section 145E of the MQSHR continue to be kept under the requirements of the corresponding new provision schedule 2E section 30. Also, section 20 of the *Acts Interpretation Act 1954* provides that the repeal of a provision does not affect a liability acquired under the provision, for example a reporting or record keeping requirement continues to apply.

Schedule 2E, section 30 consolidates requirements for keeping health surveillance reports across the MQSHR. It applies generally and follows the requirement under previous sections or repealed sections that a report for a hazard with a cumulative or delayed effect is kept for at least 30 years after it is received and for another hazard for at least 7 years after it is received.

The amendments reduce the risk of adverse health outcomes for workers, caused by lead at mineral mines, by requiring implementation of effective risk controls and

through improved lead health surveillance based on lower blood lead level removal and testing requirements.

The Amendment Regulation commences on 1 September 2023.

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

The Amendment Regulation is consistent with the policy objectives of the *Mining and Quarrying Safety and Health Act 1999*.

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

The Amendment Regulation is not inconsistent with the policy objectives of other jurisdictions. The amendments to the MQSHR to improve the risk management and health surveillance of lead are based on many of the provisions in the *Work Health and Safety Regulation 2011* applying to workplaces generally that follow the SWA Model Work Health and Safety Regulations. The amendments that improve the stringency of blood lead level requirements are consistent with the SWA Model Work Health and Safety Regulations that are being implemented in other Australian State jurisdictions.

Where necessary, the provisions have been adapted to the MQSHR framework.

## **Benefits and costs of implementation**

Mineral mine operators are already able to achieve the lower blood lead levels and airborne exposure level through effective risk management practices for approximately 99% of workers. Consequently, no significant additional costs are expected. The amendments will ensure appropriate protections for at-risk workers and provide certainty about obligations and their enforceability.

## **Consistency with fundamental legislative principles**

The Amendment Regulation has been drafted to be generally consistent with fundamental legislative principles.

It is possible however, that the amendment of section 120 of the MQSHR about the confidentiality of a worker's medical record may be considered inconsistent with the fundamental legislative principle that legislation should have sufficient regard to the rights and liberties of individuals under section 4(2)(a) of the *Legislative Standards Act 1992*, by not adversely affecting those rights and liberties.

The right to privacy, the disclosure of private or confidential information, and any privacy or confidentiality issues are generally identified as relevant to whether legislation has sufficient regard to individuals' rights and liberties under section 4(2)(a) of the *Legislative Standards Act 1992*.

Under section 4(3) whether legislation has sufficient regard to rights and liberties of individuals depends on whether, for example, the legislation makes rights and liberties, or obligations dependent on administrative power only if the power is sufficiently defined and subject to appropriate review.

There is an existing requirement for the appropriate doctor to disclose the outcome of a worker's health surveillance to the site senior executive. This information is relevant to whether mining operations are affecting a worker's health and does not contain private medical record information that is not related to the health surveillance, unless the worker has provided consent. The health surveillance information informs the site senior executive about whether health risks are being effectively controlled at the mine.

The amendment of section 120 enables the site senior executive to provide information about a worker's lead health surveillance to the chief inspector through an approved form, without the worker's written consent, without any concern about whether any of the information provided to the chief inspector is arguably a medical record. The administrative power is clearly defined because the information being provided is related to specific sections of the MQSHR. The information will be provided through the approved form.

Whilst this may impact a worker's right to refuse to release health information, this amendment is justified as it will enable improved regulatory oversight and occupational health outcomes. It enables the chief inspector to receive data to enable inspectors to regulate lead risk controls more effectively at lead and zinc mines. Effective regulation for the benefit of the health and safety of all workers at mines takes priority over the maintenance of an individual's privacy in relation to any aspect of lead health surveillance related to the worker's exposure to a lead hazard at a mine. A worker's health information will not be disclosed by the mining inspectorate except in the limited circumstances allowed under the *Mining and Quarrying Safety and Health Act 1999*.

The amendment of section 120 is similar to the approach in the *Work Health and Safety Regulation 2011* which enables a worker's health monitoring report to be provided to the regulator without the worker's written consent.

The amendment of section 120 is consistent with the approach in the *Coal Mining Safety and Health Regulation 2017* under the coal mine workers' health scheme, which provides for coal mine worker medical records to be kept by the chief executive officer, Resources Safety and Health Queensland (RSHQ).

It is also possible that the inclusion of additional civil penalties in subordinate legislation (the MQSHR), through including schedule 2E sections 21, 22, and 25 as civil penalties, may be considered inconsistent with the fundamental legislative principle that legislation have sufficient regard to the rights and liberties of individuals. Civil penalties provide for a potential additional enforcement process to prosecution for the same breach.

Civil penalties are established under sections 246E to 246K of the *Mining and Quarrying Safety and Health Act 1999*. Parliament has considered the dual potential

processes of civil penalties and prosecution for a single act or omission to be sufficiently justified.

Existing obligations and requirements to which a civil penalty may be applied are already provided for under schedule 5A of the MQSHR. There has been some renumbering of sections which are currently listed as category 3 civil penalty obligations. The Amendment Regulation will add an additional three civil penalty provisions (ie. schedule 2E sections 21, 22, and 25) to the category 3 civil penalty provisions, as they are similar health surveillance obligations to some existing category 3 civil penalty provisions.

Civil penalties enable swifter action to be taken, compared to a prosecution, to address non-compliance with safety and health obligations or other requirements. This is particularly important if a breach has the potential to impact the safety and health of workers at a mine, for example, if lead health surveillance is not being conducted correctly.

Prescribing the breaches to which civil penalties can apply does not create any additional obligations or requirements. The *Mining and Quarrying Safety and Health Act 1999* contains overarching safety and health obligations that must be achieved to maintain an acceptable level of risk to the safety and health of workers at a mine.

The MQSHR only lists the prescribed breaches to which a civil penalty established through the *Mining and Quarrying Safety and Health Act 1999* can be applied. Sections 246E to 246K of the *Mining and Quarrying Safety and Health Act 1999* make civil penalty obligations subject to administrative power, but as specified under section 4(3)(a) (first limb) of the *Legislative Standards Act 1992*, the power is sufficiently defined, as the administrative decision-making must follow express criteria for making the decision to give a notice proposing imposition of a civil penalty under section 246G of the *Mining and Quarrying Safety and Health Act 1999*. As specified under section 4(3)(a) (second limb) of the *Legislative Standards Act 1992*, the administrative decision-making process proposing imposition of a civil penalty, provides for a review process under section 246H, as well as an appeal process under section 246I of the *Mining and Quarrying Safety and Health Act 1999*. The review processes are appropriate and provide sufficient regard to the rights and liberties of individuals.

New sections 12C(2), 145J(1) and (3), 145K(1) and (2), and schedule 2E sections 23(2), 24(3), 26(4), and 29(1) relate to reporting requirements or payment by an employer for health surveillance and contain maximum penalties ranging from 10 penalty units to 60 penalty units. The potential breach of fundamental legislative principles relates to whether penalties within the legislation are consistent with each other; proportionate; and whether a higher penalty is provided for an offence of greater seriousness.

The maximum penalties in any comparable existing sections in the MQSHR and in the equivalent sections in the *Work Health and Safety Regulation 2011* were considered when determining the maximum penalty for each new offence provision, to ensure the maximum penalties are justified through being at an appropriate level for the specific new offences. The maximum penalties in new sections 145J, 145K, and schedule 2E sections 23, 24, 26, and 29 are similar to the maximum penalties in comparable

offence provisions in part 7.2 divisions 3 and 4 of the *Work Health and Safety Regulation 2011*.

The Amendment Regulation also includes some renumbering or other amendments of existing sections that are not safety and health obligations and that provide for maximum penalties. The existing maximum penalties are retained as part of the renumbering of existing section 145D as schedule 2E sections 6(1) and 13(1) and in the amendment of section 120(2).

## **Consultation**

In December 2015, SWA published a RIS which compared options for decreasing the regulatory thresholds for blood lead levels including through blood lead removal levels, return to lead work blood lead levels and exposure standards for airborne lead contaminants.

In August 2016, SWA published its Decision RIS, “Managing risks associated with lead in the workplace: blood lead removal levels and workplace exposure standard” noting that most workplaces were already able to meet the proposed lower targets. The reduced blood lead and airborne exposure levels were recommended through the Decision RIS.

The Decision RIS noted that mining industry stakeholders had participated during the consultation. Blood lead biological monitoring data was sourced from State Health Departments. Around 80% of the Queensland data related to the lead mining and smelting operations in and around Mount Isa.

The Decision RIS supported reduced mandated blood lead levels and airborne exposure level. The amendments implement the recommendations of the Decision RIS.

The OBPR considered that the level of impact assessment and consultation undertaken through the regulatory impact assessment undertaken by SWA was an extensive impact assessment process.

The SWA Decision regulatory impact statement established a national case for government intervention, as the benefit cost ratio was positive. This is unlikely to change based upon any more recent Queensland figures.

The OBPR noted that RSHQ has consulted industry stakeholders and any further regulatory impact analysis is unlikely to provide new information.

The OBPR advised that further regulatory impact analysis under the Queensland guidelines is not required.

The Mining Safety and Health Advisory Committee was provided with updates regularly from 2018 onwards and has not raised any concerns.

In April 2023, operator representatives at lead or zinc mines were directly consulted and did not raise any significant concerns.

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