

COMPLIANCE PRIORITIES OUTCOMES

Changes to exposure standard for respirable crystalline silica Metalliferous: Surface and underground

Legislative amendments to the workplace exposure standard for respirable crystalline silica

Issue: On 1 July 2020, the workplace exposure standard for respirable crystalline silica was reduced from $0.1\text{mg}/\text{m}^3$ to $0.05\text{mg}/\text{m}^3$. As a result, mines and petroleum sites are now required to comply with the standard and notify of exceedances of the revised exposure standard to the NSW Resources Regulator (the Regulator) in accordance with clause 128(5)(r) of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014. The Regulator published a position paper in March 2020 which outlined transitional arrangements following the revision of the exposure standard.

What we did

Assessments were undertaken at 37 sites (surface and underground) between July and October 2020. Each site was assessed on the following criteria:

- Knowledge of the principal hazard.
- Awareness of the revised limit and exposure groups potentially placed at risk.
- Relevance and accuracy of associated risk assessment, management plans, and control plan.
- Appropriate controls were identified and subsequently implemented in order to comply with the revised limit.
- Information, training, and instructions given with regards to the revised limit.
- Health monitoring arrangements.

What we found

- Most mines had a petrographic analysis report which detailed the percentage of crystalline silica in the mined material. Four mines had not undertaken any analysis.
- Most mines were aware of the reduction in the exposure standard for crystalline silica and had effective channels of communication with the workforce for disseminating information.
- Even though most mines were aware of the new limits, approximately half of the mines had either not reviewed or not adequately reviewed the risk assessment to incorporate the new limits. Consequently, a similar proportion had also not reviewed the principal hazard management plan and health control plan to ensure they remained relevant through revision of existing controls or addition of new controls.
- A slight majority of mines had an existing trigger action for exceeding a predetermined percentage of the exposure standard and had also revised it to meet the new limits. An action plan was generally structured around reviewing existing controls for effectiveness or looking at better controls.
- There was good understanding from all mines about the need to conduct monitoring of airborne dust. Workplace exposure monitoring was conducted by almost all mines with varying frequencies and determined generally by an occupational hygienist using a risk-based approach.

Outcome

The assessments resulted in the issuing of:

- 24 section 191 notices
- 10 section 23 notices.

Next steps

The Regulator is currently conducting assessments which are focussing on the principal hazard, air quality or dust or other airborne contaminants. These assessments also discuss the relevant exposure standards however they are directly attributed to the critical controls that should be implemented in order to eliminate the risk or reduce as low as reasonably practicable.

The Regulator will continue to prioritise the assessment of controls for silica and respirable dust into 2021. This will be integrated into every planned inspection and targeted assessment undertaken at mine sites.

In addition, the monitoring and analysis of assessment and/or incident data is constantly completed by the Regulator. This information is then utilised to determine industry performance and identify high risk practices which require further assessment or intervention.

Recommendations

Mine operators should:

- periodically update petrographic analysis of the mined material to ensure the crystalline silica content is well understood especially when mining different deposits
- review risk assessments periodically and ensure the principal hazard management plan and the health control plan are also reviewed periodically so they remain effective and relevant with type and frequency of monitoring
- Consider the introduction of an action exposure limit (e.g. 50% of operational exposure limit) to understand trends and high-risk tasks which occur on site
- ensure there are clear and documented guidelines for reviewing and investigating exceedances
- continue to communicate and engage with the workforce about the risks of airborne dust and the controls in place to protect them (especially important where controls have changed or new controls have been implemented)
- attend available education opportunities and ensure periodical information disseminated by the Regulator is received and discussed with workers. Resources include:
 - NSW Resources Regulator annual roadshows
 - The Mine Safety Advisory Council 'Dust toolkit', available online at <https://www.resourcesregulator.nsw.gov.au/safety-and-health/about-us/advisory-council/msac-dust-toolkit>.

Further resources

DATE PUBLISHED	REFERENCE	TITLE
Jun 2020	Guidance poster	Changes to airborne contaminants and dust exposure standards guidance poster
Mar 2020	Position paper	Revision to silica exposure standard

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DATE PUBLISHED	REFERENCE	TITLE
Jul 2018	Consolidated report	Airborne contaminants in underground metalliferous mines
Jul 2018	Guide	Airborne contaminants principal hazard management plan
Jul 2018	Guide	Dust safety in the metals and extractives industries

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