Safety Alert

NSW RESOURCES REGULATOR

DATE: NOVEMBER 2018

Controlling legionella bacteria in mining operations

This safety alert provides safety advice for the NSW mining industry.

This safety alert should be read in conjunction with the:

- → *Public Health Act 2010* and the Public Health Regulation 2012
- → *Legionella* control in cooling water systems NSW Health guideline
- → Standards AS/NZS 3666 part 3 – *Legionella* controls

Issue

Legionnaires' disease is a lung infection caused by *legionella* bacteria that has the potential to cause severe illness and death.

The requirements for building occupiers to test for *legionella* bacteria on a monthly basis and notify high 'reportable test results' to local councils commenced on 1 January 2018.

The Resources Regulator recently became aware that a mine in the central west of NSW exceeded the reportable thresholds for both *legionella* pneumophila and heterotrophic plate counts earlier in the year.

With the onset of spring rain and warmer weather the risk of bacteria growth in cooling towers poses a risk to mine workers. Preventing the growth and transmission of *legionella* bacteria, and subsequent outbreaks of Legionnaires' disease is controlled by managing cooling water systems and preventing contamination of mine ventilation systems.

Clause 54 of the Work Health and Safety (Mines and Petroleum Sites) Regulation places a duty on the mine operator of an underground mine to ensure that the concentration of any airborne contaminant is as is low as is reasonably practicable.

Schedule 1 (5) of the Work Health and Safety (Mines and Petroleum Sites) Regulation specifies requirements for matters to be considered in developing control measures to manage the risk of airborne contaminants such as *legionella*.

The mine's principal hazard management plan for air quality, dust or other airborne contaminants should identify the control measures.

Incident

In the 2018 incident, the exceedance of reporting thresholds was on the warm side of the cooling tower, not the cool side that is used to introduce cool air into the mine ventilation.

The Resources Regulator is not aware of any adverse health effect resulting from the incident.

Exceedance of *legionella* and heterotrophic plate counts are reportable to local councils in accordance with the Public Health Regulation 2012.

New Department of Health requirements for managing cooling water systems came into effect on 10 August 2018. Cooling water systems must be managed safely to prevent the growth and transmission of

legionella bacteria. Infection may cause Legionnaires' disease, a serious and potentially life-threatening condition.

NSW Health has strengthened the Public Health Regulation 2012 to require a performance-based (or risk management) approach to managing cooling water systems. This approach allows each system to be managed according to its risk of *legionella* contamination.

Building occupiers are required to ensure that there are six key safeguards in place for their cooling water systems:

1) Risk assessment of *legionella* contamination, documented in a risk management plan (RMP) – every five years (or more frequently if required).
2) Independent auditing of compliance with the RMP and regulation – every year.
3) Providing certificates of RMP completion and audit completion to the local government authority.
4) Sampling and testing for *legionella* and heterotrophic colony count – every month.
5) Notifying reportable laboratory test results (*legionella* count ≥1000 cfu/mL or heterotrophic colony count ≥5,000,000 cfu/mL) to the local government authority.
6) Displaying unique identification numbers on all cooling towers.

Recommendations

- → Mine operators should assess the risk for biological contaminants including *legionella* in cooling towers.
- → Ensure the air quality or dust or other airborne contaminants principal hazard management plan meets the requirements of the Public Health Regulation 2012.
- → Review the ventilation control plan to ensure it addresses the management of *legionella* airborne contaminant risk.
- → Report exceedance of *legionella* and heterotrophic plate counts through local government agencies.
- → Record exceedances events in mine quarterly reports submitted to the Resources Regulator.

NOTE: Please ensure all relevant people in your organisation receive a copy of this safety alert and are informed of its content and recommendations. This safety alert should be processed in a systematic manner through the mine's information and communication process. It should also be placed on the mine's notice board.

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