Fact sheet

Principal hazard – air quality or dust or other contaminants – exposure to dust and airborne contaminants in excess of OEL

August 2024

The Resources Regulator has developed a broad-brush risk assessment and a program of bowties to review principal hazard and control plan topics.

The bowtie program identified the material unwanted events (MUE) and critical controls to prevent serious injury or death of mine workers.

The bowtie for the principal hazard topic of air quality or dust or other contaminants identified one MUE and the critical controls for assessment programs. This fact sheet provides information related to the assessment program focussing on the MUE – exposure to dust and airborne contaminants in excess of occupational exposure limits (OEL).

Principal hazard — air quality or dust or other contaminants

MUE — exposure to dust and airborne contaminants in excess of occupational exposure limits

MUE critical controls

The Regulator's assessment program will focus on the following critical controls to prevent an exposure to dust or other contaminants in excess of OEL:

- Mine / activity designed to minimise contaminant generation or release.
- Equipment designed and operated to minimise exposure to contaminants (including generation, release or ingress).
- Ventilation to dilute contaminants in air.
- Atmospheric contaminant levels maintained below OEL.
- Personnel located away from contaminant generation.
- Use of personal protective equipment (PPE).
- Early identification and treatment/management of chronic exposure/illness in personnel.

Fact sheet – air quality or dust or other airborne contaminants – exposure to dust or other airborne contaminants in excess of OEL

Considerations

The Regulator defines the term 'airborne contaminant' to include a fume, mist, gas, vapour, dust or other microorganism that is a potentially harmful substance to which individuals may be exposed in their working environment.

Airborne contaminants are generated during mining activities and can be a risk to a person's health if not properly managed. Individuals can be exposed to dust on a mine site, with activities such as cutting or grinding, abrasive blasting, hauling, mucking, tipping, and crushing, having the potential to create unacceptable dust exposures if not controlled properly.

Substantial dust can be generated during drilling operations, particularly if undertaken in dry conditions. Also, workers can be exposed to dust from dried spilled material or generated from tailings storage facilities, product stockpiles and during the loading of broken material and product transfer.

The aim is to reduce airborne contaminants and dust generation. The order in which controls are implemented must follow the hierarchy of controls – elimination, substitution, engineering, administrative and lastly personal protective equipment. Personal protective equipment is a last line of defence against exposure.

Mine operators should consider the material unwanted events above as a minimum and ensure that the review of critical controls to prevent serious injury or death is included within the site principal hazard management plans for air quality or dust or other airborne contaminants and associated documentation.

Other relevant safety alerts, safety bulletins and information resources published by the Resources Regulator:

Date published	Reference	Title
May 2024	RR web site – health and safety management	Airborne contaminants and dust Dust diseases Dust diseases tool kit
August 2023	RR web site	Table of completed investigations of dust diseases
January 2022	SB22-01	Welding fume extraction fans
February 2021	RR Investigation Report	Open cut coal mine worker contracts interstitial lung disease – Worker D
August 2020	IIR20-10	Open cut coal mine worker contracts coal workers' pneumoconiosis

References	
Program type	PH-0101
Principal hazard	Air quality or dust or other contaminants
MUE number	MUE01

Fact sheet – air quality or dust or other airborne contaminants – exposure to dust or other airborne contaminants in excess of OEL

© State of New South Wales through the Department of Primary Industries and Regional Development [2024]. You may copy, distribute, display, download and otherwise freely deal with this publication for any purpose, provided that you attribute the Department of Primary Industries and Regional Development as the owner. However, you must obtain permission if you wish to charge others for access to the publication (other than at cost); include the publication in advertising or a product for sale; modify the publication; or republish the publication on a website. You may freely link to the publication on a departmental website.

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (August 2024) and may not be accurate, current or complete. The State of New South Wales (including the Department of Primary Industries and Regional Development), the author and the publisher take no responsibility, and will accept no liability, for the accuracy, currency, reliability or correctness of any information included in the document (including material provided by third parties). Readers should make their own inquiries and rely on their own advice when making decisions related to material contained in this publication.