

Fact sheet

Principal hazard – gas outburst, rock burst and coal burst

September 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 of gas outburst, rock burst and coal burst, identified one MUE and the critical controls for assessment programs. This fact sheet provides information related to the assessment program focussing on the MUE – uncontrolled coal outburst, rock burst or coal burst.

Principal hazard – gas outburst, rock burst and coal burst

MUE – uncontrolled coal outburst, rock burst or coal burst

MUE critical controls

The Regulator's assessment program will focus on the following critical controls to prevent an uncontrolled coal outburst, rock burst or coal burst:

- The mine (layout, sequence and support) is designed to geotechnical, gas and strata conditions.
- Pre-conditioning (how ground stress is managed).
- Pre-drainage (how gas pressure is managed).
- Use of ground support (designed and executed to maintain stable ground)
- Controlled energy release through mining methodology.
- How workers are restricted or removed from high-risk areas.
- Equipment shutdown in high gas environments.
- Ventilation.



Fact sheet – Principal hazard – gas outburst, rock burst or coal burst

Considerations

Mine operators should consider the MUE above as a minimum and ensure that reviewing critical controls to prevent serious injury or death is included within the site principal hazard management plans and associated documentation.

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

Date published	Reference	Title
April 2024	Consolidated report Underground coal mines	<u>Outburst, coal burst and rock burst</u>
April 2023	Technical reference guide	<u>TRG-gas-outbursts-principal hazard management plans</u>
December 2022	Investigation information release IIR 22-07	<u>Outburst at NSW underground coal mine</u>
2019	Learning from disasters – case study	<u>2014 Austar pressure burst</u>
2019	Learning from disasters – case study	<u>1991 South Bulli Colliery Outburst</u>
April 2018	Fact sheet Legislation advice	<u>Dangerous incidents - coal burst or rock burst</u>
September 2017	Consolidated report Longwall mining	<u>Gas outburst risks in longwall mining</u>
18 January 2017	Safety Alert SA17-01	<u>Gas outburst on longwall face</u>
October 2015	Investigation Report	<u>Investigation report- deaths of J. Mitchell and P. Grant at the Austar Coal Mine on 15 April 2014</u>
February 2015	NSW Code of Practice	<u>Strata control in underground coal mines</u>

Fact sheet – Principal hazard – gas outburst, rock burst or coal burst

References	
Program type	PH-0301 & 0401
Principal hazard	0301 Gas outburst 0401 Ground or strata failure
MUE number	MUE01

© 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 (September 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.