

Fact sheet

Control plan – electrical engineering control plan – uncontrolled release of electrical energy

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 control plan topic of electrical engineering control plan 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 release of electrical energy.

Control plan – electrical engineering control plan

MUE – uncontrolled release of electrical energy

MUE critical controls

The Regulator's assessment program will focus on the following critical controls to prevent an acute exposure to irrespirable atmospheres.

- Reduce voltage (where practical).
- Separation of the human from the power source (AS3000).
- Fit-for-purpose electrical equipment.
- Provision of effective isolation, energy dissipation and verification (No Live Work).
- Electrical (fault) protection devices - arc flash.
- Earthing of electrical equipment.
- Earth leakage protection.
- Lightning protection.



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Considerations

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 electrical engineering control plan and associated documentation.

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

Date published	Reference	Title
August 2024	Govt Gazette Notice 265	<u>Exemption (non-explosive protected low power storage devices in hazardous zones)</u>
W/E 28 July 2024	Weekly incident summary report	<u>UG Coal mine LHD hits 6.6 kV cables and a 1 kV cable</u> <u>UG Coal mine contractor touched 11kV MC set spout</u>
February 2024	Guidance Resources Regulator	<u>Electrical engineering</u> <u>Explosion-protected electrical plant</u> <u>Management systems and work processes</u>
April 2023	Safety bulletin	<u>Safety bulletin SB23-03 Ignition risks from rare earth magnets</u>
February 2023	Safety bulletin	<u>Safety bulletin SB23-01 Explosion risk of battery units for underground battery electric vehicles</u>
December 2022	Safety bulletin	<u>Safety bulletin SB22-17 Fires on battery powered tools increase</u>
August 2022	Safety bulletin	<u>Safety bulletin SB22-11 Photovoltaic and battery energy supply systems and their connection to a mine electricity system</u>
August 2022	Safety bulletin	<u>Safety bulletin SB22-10 Mobile lighting plant at mining workplaces</u>
September 2021	Safety bulletin	<u>Safety bulletin SB21-05 Fire risk of battery units for underground battery electric vehicles</u>
October 2020	Safety alert	<u>Safety alert SA20-10 Anti-static materials in underground coal mines</u>
September 2020	Safety alert	<u>Safety alert SA20-08 Drill rig contacts 22kV power line</u>
May 2020	Safety bulletin	<u>Safety bulletin SB20-03 Electric shocks in the mining industry</u>
December 2018	NSW code of practice	<u>Electrical engineering control plan</u>

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References	
Program type	CP-1101
Control plan	Electrical engineering control plan
MUE number	MUE01

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