

Fact sheet

Principal hazard – inundation or inrush – uncontrolled failure of containment of a tailings dam, waste tip or water storage located on a mine site

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 inundation or inrush identified 2 MUEs and the critical controls for assessment programs. This fact sheet provides information about the assessment program focussing on the MUE – uncontrolled failure of containment of a tailings dam, waste tip or water storage located on a mine site.

Principal hazard – inundation or inrush

MUE – uncontrolled failure or containment of a tailings dam, waste tip or water storage located on a mine site

MUE critical controls



The Regulator’s assessment program will focus on the following critical controls to prevent an uncontrolled inundation or inrush resulting from a failure of containment of a tailings dam, waste tip or water storage located on a mine site:

- The tailings storage facility (tailings emplacement, coarse reject or co-disposal areas) or water storage is designed to recognised standards and managed to meet with best practice guidance information provided by the Australian National Committee on Large Dams (ANCOLD).
- Reducing the magnitude of the source (i.e. reduction of reject/waste and/or treatment of reject/waste)
- The water management systems on site.
- Restriction of workers from accessing the tailings storage facility.
- Onsite emergency response to unplanned events.

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Considerations

Mine operators should consider the MUE 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 and associated documentation.

Guidance material is published on the Regulator’s web site about the best practice management of tailings storage facilities. Further information can be found at:

resourcesregulator.nsw.gov.au/rehabilitation/tailings-storage-facilities

The Australian National Committee on Large Dams (ANCOLD) is recognised as the primary industry advisory body for dams in Australia and provides a series of guidance materials on what is considered acceptable practice, including engineering performance criteria.

Guidance published by the Australian National Committee on Large Dams can be found at: ancold.org.au/

Guidance published by the Australian Government on leading practice handbooks for sustainable mining can be found at:

industry.gov.au/publications/leading-practice-handbooks-sustainable-mining

The Global Acid Rock Drainage (GARD) guidelines addresses mine waste to manage Acid Metalliferous Drainage (AMD) issues. It is published by the International Network for Acid Prevention, which is an industry-sponsored advisory body for issues relating to AMD. GARD guidance information can be found at: gardguide.com.

Other relevant safety alerts and bulletins and guidance published by the Resources Regulator:

Date published	Reference	Title
September 2022	Safety alert	<u>Safety alert SA22-03 Worker swims to shore after pontoon pump and boat sink</u>
August 2022	Safety alert	<u>Safety alert SA22-02 Stranded worker rescued from active tailings dam</u>
June 2022	Safety bulletin	<u>Safety bulletin SB22-07 Collisions on overburden dumps</u>
August 2021	Planned inspection report	<u>Tailings management to support post-mining final land use</u>
June 2021	NSW code of practice	<u>Inundation and inrush hazard management</u>
July 2020	Compliance priority report	<u>Constructing, operating and decommissioning tailings storage facilities</u>
June 2020	Guidance	<u>Leading practice tailings management for successful closure</u>
February 2020	Safety bulletin	<u>Safety bulletin SB20-01 Failure of highwalls, low walls and dumps</u>

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