

Post Mining Land Use – Practice Mapping

Ensham Coal Mine Case Study

Queensland mine operators must prepare Progressive Rehabilitation and Closure Plans (PRCPs) to maximise progressive rehabilitation of mined land to a stable condition. This is a key aspect of the extensive 2018 reforms of Queensland’s mining rehabilitation regulatory framework, which came into effect on 1 April 2019. Important issues remain regarding the framework’s response to open-cut mines, especially those with mine voids in a flood plain, such as the Ensham Coal Mine.

KEY FINDINGS

- All mine operators must prepare PRCPs to maximise progressive rehabilitation of mined land to a ‘stable condition’ – that is, safe and structurally stable, causing no environmental harm, and can sustain a post-mining land use (PMLU). A PRCP may state that, in the public interest, mined land is not to be rehabilitated to a stable condition and should be managed as a ‘non-use management area’ (NUMA). However, it must provide for a void in a flood plain to be rehabilitated to a stable condition.
- The transitional provisions of the reforms have created two classes of mines: those existing before and those established after 1 April 2019. Pre-existing mines (such as Ensham), with an authorisation for a void in a flood plain, can be exempted from the new requirement to rehabilitate to a stable condition and remain as a NUMA.
- The reforms may not adequately address the risk of residual voids for mines that have made slow progress on progressive rehabilitation. This presents a broader industry risk, as only new mines are subject to improved rehabilitation requirements.
- Transparency issues within the regulatory framework negatively impact accountability and public confidence in rehabilitation processes and outcomes. The amount that a proponent provides as financial assurance for estimated rehabilitation costs is not publicly available, and third-party access to further rehabilitation information is limited by Right to Information Act access processes and informal arrangements between the regulator and proponents.
- There is uncertainty about community consultation requirements and how to balance community preferences with regulatory requirements. ‘Rehabilitation’ is an ill-defined term, subject to differences in some community understanding equating it with the ‘re-filling’ of voids, and the regulatory reality of applying ‘stable condition’.



This case study considered three core issues in Queensland’s mine rehabilitation regulatory framework:

- Void rehabilitation of pre-existing open-cut mines in flood plains at the time of regulatory reforms;
- Insufficient progressive rehabilitation of pre-existing open-cut mines; and
- A lack of transparency, consultation requirements, and definition of key terms.

THE CHALLENGE

The rehabilitation of voids that result from open-cut mining poses regulatory challenges, particularly for voids located in flood plains, which are areas of high hydrological, environmental, and ecological importance. A key regulatory concern is the impact of leaving open-cut mining voids open to inundation.

High community expectations of mine rehabilitation must be balanced with regulatory requirements that operate in the bounds of what is technically and commercially achievable for pre-existing mines with prior authorisation of mine voids. Achieving this balance depends on clear, certain definitions of commonly used terms and effective community consultation with mine rehabilitation processes.

THE OPPORTUNITY

The Ensham case study analysed Queensland's reformed mine rehabilitation regulatory framework to identify areas of legislative uncertainty and further reform of law and practice. Mapping the differing values and conceptions of key concepts enhances the regulatory framework.

CRC TiME enables an integrated, holistic approach to enhancing the understanding of mine rehabilitation regulation and to raising awareness of the significant challenges faced by industry, government, and community. It pushes for the development of regulatory frameworks that accurately reflect stakeholder values and perspectives on addressing these challenges.

OUTCOMES

This case study analysed the application of Queensland's mine rehabilitation regulatory framework to open-cut mines. It identified the regulatory challenges that persist after recent reforms, particularly the disparate approaches towards void rehabilitation for new and pre-existing mines in flood plains and limited progress in rehabilitation.

NEXT STEPS

Future research is needed to understand the cumulative impacts of the transitional provisions perpetuating residual voids as non-use management areas in flood plains, the impacts of a lack of transparency in rehabilitation regulation information, and the meaning and scope of community consultation on accepting pre-existing NUMA and proposed PMLU.

PROJECT PARTNERS

BHP; Murdoch University; Rio Tinto Services Limited; University of Queensland; University of Western Australia; Central Highlands Development Corporation; Department of Jobs, Precincts and Regions, Victorian Government; Department of Resources, Queensland Government; Department of Water and Environmental Regulation, Western Australian Government; Department of Mines, Industry Regulation and Safety, West Australian Government; Department of Environment, Land, Water and Planning, Victorian Government; Highlands Environmental; Mine Land Rehabilitation Authority; Pilbara Development Commission; Planning 4 Sustainable Development Pty Ltd; Yinhawangka Aboriginal Corporation; Ngadju Conservation Aboriginal Corporation; The Chamber of Minerals and Energy WA; Roy Hill Iron Ore Pty Ltd.

PROJECT REPORTS

REVIEW FULL REPORT

Brown, N. (2022). Regulation of Mine Closure Planning and Pilbara Agreements Case Study. CRC TiME Limited.

Downes, L., Gardner, A. (2022). Post Mining Land Use – Practice Mapping Options: Ensham Coal Mine Case Study. CRC TiME Limited.

Gardner, A., Poletti E., Downes, L. and Hamblin, L., (2022). Rehabilitation of the Latrobe Valley Coal Mines: Integrating regulation of mine rehabilitation and planning for land and water use. CRC TiME Limited.

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ABOUT US

The Cooperative Research Centre for Transformations in Mining Economies is part of Australia's national innovation ecosystem. Our diverse partnership brings scale, collaboration and coordinated investment to tackle the most complex mine closure and post-mine transition challenges. Together we're rethinking what's possible to improve outcomes for people, communities, the environment and industry.

We acknowledge the traditional custodians across all the lands on which we live and work, and we pay our respects to Elders both past and present.