

TOP 5 INTEGRATED MINE CLOSURE CHALLENGES (AND SOLUTIONS)

Based on material from the **Integrated Mine Closure Professional Certificate**
For full details visit www.ausimm.com/courses

INTRODUCTION

This guide delves into the core obstacles faced by mining professionals in achieving seamless and responsible mine closures.

From the intricate integration of closure planning into the broader mine lifecycle to fostering interdisciplinary collaboration and adapting to evolving regulations and stakeholder expectations, this resource offers expert solutions to each challenge.

We explore the complexities of long-term cost estimation, stakeholder engagement, and the sustainable transition of communities, providing actionable strategies to conquer these hurdles successfully. Dive into this invaluable resource to gain insights and strategies that will empower you to tackle the top challenges in integrated mine closure with confidence and expertise.

This guide is based on material from the AusIMM Integrated Mine Closure Professional Certificate.

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Challenge: Integration with Life of Mine Planning

Integrating mine closure planning into the life of mine planning (LoAP) process is a challenge. Although recognized as desirable, full integration is often not achieved. This challenge stems from the need to seamlessly incorporate closure considerations into all stages of mining operations, including exploration, development, operation, and closure. Effective integration ensures that closure-related expectations, risks, and opportunities are managed proactively throughout the mining cycle.

Key action: Holistic Closure Integration Framework

Develop a comprehensive framework that outlines specific points of integration for closure planning within the life of mine planning process. Ensure that closure-related considerations are integrated into the various stages of mine planning, from exploration and development to operation and eventual closure. Establish cross-functional teams that include representatives from exploration, engineering, environmental, legal, and financial departments. This collaborative approach will facilitate the identification of closure-related opportunities, risks, and objectives throughout the mine's life cycle. Regularly review and update the framework to align with changing conditions and priorities.



Challenge: Multi-disciplinary Nature

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Key action: Interdisciplinary Coordination and Clear Roles

Establish a clear organisational structure that emphasises the importance of interdisciplinary collaboration in mine closure. Designate a closure project manager responsible for coordinating and overseeing the contributions of each discipline. Clearly define the roles, responsibilities, and contributions of each discipline within the closure planning and execution process. Foster open communication and knowledge sharing among disciplines to address potential conflicts and ensure a unified approach. Regularly convene cross-disciplinary meetings to review progress, share insights, and align strategies. This approach will help manage the complexities of closure effectively.



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Challenge: Changing Regulations & Stakeholder Expectations

Closure requirements evolve over time, and regulators often adopt risk-averse approaches. Community expectations and regulatory controls can change during the life of a mine, leading to challenges in adapting closure plans accordingly. Achieving closure that meets both evolving regulations and community expectations while managing potential conflicts between the two poses a significant challenge.

Key action: Adaptive Closure Planning Framework

Develop an adaptive closure planning framework that incorporates flexibility to accommodate changing regulations and stakeholder expectations. Establish a continuous monitoring system to track regulatory updates and shifts in community preferences. Conduct regular reviews of the closure plan to ensure alignment with current regulations and stakeholder demands. Engage in proactive dialogue with regulators and communities to anticipate changes and collaboratively adjust closure plans. This adaptable approach will ensure that closure plans remain relevant and compliant throughout the mine's life cycle.



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Challenge: Long-Term Cost Estimation

Estimating the cost of closure is complex and challenging. Closure costs are often incurred in the distant future, and their impact on present value (NPV) calculations might appear negligible. This perspective can lead to inadequate budgeting and decision-making during the mine's operational phase. Accurately estimating closure costs over long time horizons and ensuring that these estimates are incorporated into financial planning is crucial for responsible mine closure.

Key action: Dynamic Financial Provisioning Strategy

Implement a dynamic financial provisioning strategy that considers long-term closure costs and their impact on the mine's financial planning. Incorporate closure cost estimates into financial models and mine planning scenarios from the outset. Regularly update closure cost estimates based on evolving data, technological advancements, and regulatory changes. Collaborate with financial experts to analyse the potential NPV impact of closure costs and adjust financial provisions accordingly. By integrating accurate, updated closure cost estimates into financial planning, you can ensure responsible budgeting and decision-making.



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Challenge: Stakeholder Engagement and Trust

Meaningful stakeholder consultation and engagement are critical for successful mine closure, but they can be challenging to execute effectively. Historically, stakeholder consultation related to closure has been lacking in quality and transparency, leading to reduced levels of trust. Ensuring timely and genuine engagement with stakeholders throughout the closure planning process, with a clear understanding of their influence, is essential to build trust and achieve successful outcomes.

Key action: Transparent Stakeholder Engagement Framework

Establish a robust stakeholder engagement framework that prioritizes transparency, inclusivity, and responsiveness. Identify key stakeholders and their levels of influence early in the mine closure process. Develop tailored engagement plans for each stakeholder group, outlining communication channels, frequency of interactions, and mechanisms for addressing concerns. Implement a feedback loop to demonstrate how stakeholder input is considered and integrated into closure plans. Regularly communicate progress and updates to maintain trust and ensure that stakeholder perspectives shape the closure process.



BONUS

Challenge: Long-Term Monitoring & Maintenance

An integrated mine closure challenge is planning for long-term monitoring and maintenance. Closure plans often prioritize initial closure activities, downplaying the post-closure phase. Yet, ongoing monitoring is vital for meeting closure goals and addressing risks. Striking a balance between finances, operations, and site sustainability demands thoughtful planning and resource allocation.

Key action: Comprehensive Post-Closure Management Plan

Create a detailed post-closure plan outlining long-term monitoring and maintenance, including protocols for key indicators like water quality and structures' stability. Allocate ample resources for effective monitoring. Involve stakeholders, including regulators and local communities, for transparency. Update the plan periodically for changing conditions.

NEXT STEPS



Discover how to create management plans, successfully engage stakeholders and implement a dynamic financial provisioning strategy.

Through the Integrated Mine Closure Professional Certificate you will learn to:

- Identify and assess closure risks and opportunities to reduce risk and realise value;
- Recognise that the execution of closure plans requires the same project management rigour as the original mine development;
- Explain success criteria and associated monitoring and maintenance programs to drive relinquishment.

[LEARN MORE](#)

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Learn how Integrated Mine Closure (IMC) can realise significant value to operations; how to assess closure risks; opportunities to realise value and maintenance programs to drive relinquishment.



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