South Australian Chamber Of Mines & Energy

SACOME

SACOME Submission

DEM Groundwater Impact Assessment for Scoping, Mining Applications and Programs (MG39)

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Introduction

SACOME welcomes the opportunity to comment on the draft *Groundwater Impact Assessment for Scoping, Mining Applications and Programs (MG39)* guideline and supports the Department's objective of improving the quality of groundwater impact assessments while reducing requests for further information during the approvals process. The emphasis on early scoping, development of a sound conceptual hydrogeological understanding, and adopting fit-for-purpose assessment methods is a positive step towards improving regulatory certainty for proponents.

Overall, SACOME considers the guideline to be a valuable resource that will improve the consistency and quality of groundwater impact assessments. We have identified several areas where additional clarification would further improve its practical application, provide greater certainty for proponents and ensure assessment requirements remain proportionate to project risk.

Recommendation 1: Provide clearer guidance on proportionate groundwater monitoring requirements

The guideline provides detailed instructions on accessing existing groundwater information through SARIG and WaterConnect but provides comparatively little guidance on what constitutes an appropriate groundwater monitoring program for a new project.

For example, the guideline states that proponents should increase certainty through desktop assessment, interpretation of drill logs or by establishing monitoring wells where required. However, it provides little practical guidance on what would normally be considered sufficient.

Providing additional guidance would improve consistency between proponents and regulators and reduce uncertainty during project planning. In particular, SACOME recommends the guideline include guidance on:

- determining the expected density and distribution of monitoring bores;
- the minimum period of baseline monitoring generally expected prior to assessment;
- the amount of seasonal groundwater data typically considered adequate; and
- how monitoring expectations should vary according to project scale, complexity and environmental risk.

Providing indicative expectations, while retaining flexibility for site-specific circumstances, would assist proponents in designing fit-for-purpose monitoring programs and reduce the potential for unnecessary requests for additional information later in the assessment process.

Recommendation 2: Clarify when different groundwater methods should be used

SACOME supports the guideline's repeated emphasis on adopting fit-for-purpose groundwater assessment methods and its acknowledgement that complex numerical groundwater models can be costly, time-consuming and may not always improve assessment outcomes.

However, there appears to be some inconsistency between this objective and the broader assessment expectations outlined elsewhere in the guideline.

The guideline places significant emphasis on assessing groundwater-dependent ecosystems, cumulative impacts, post-closure impacts and uncertainty. In practice, these are often the factors that lead regulators to require detailed numerical groundwater modelling.

Without further clarification, there is a risk that proponents may conclude that numerical modelling will be expected for many projects despite the stated objective of encouraging simpler assessment approaches where appropriate.

SACOME recommends the guideline more clearly articulate the circumstances in which conceptual assessments, analytical methods or numerical modelling would generally be expected, with greater emphasis on ensuring assessment requirements remain proportionate to project risk, environmental sensitivity and project scale.

A simple decision framework or risk-based hierarchy would assist proponents in selecting the most appropriate assessment approach and provide greater consistency in regulatory expectations.

Recommendation 3: Clearly distinguish statutory requirements from guidance and recommended practice

The guideline contains a combination of legislative requirements, recommended practice and preferred approaches.

To avoid uncertainty, SACOME recommends clearly distinguishing between:

- statutory requirements under the *Mining Act 1971* and *Mining Regulations 2020*;
- departmental guidance representing leading practice; and
- examples or recommendations that proponents may adopt where appropriate.

Providing this distinction would improve transparency and reduce the risk that guidance is interpreted as mandatory assessment requirements by both proponents and by assessors.

Recommendation 4: Clarify how groundwater models inform environmental outcomes and compliance criteria

SACOME supports the guideline's recommendation that environmental outcomes and compliance criteria should be linked to measurable environmental conditions rather than directly to groundwater model predictions.

However, in practice groundwater models are commonly used to:

- predict the likely extent of drawdown;
- identify receptors potentially affected by mining activities;
- establish acceptable impact thresholds; and
- inform monitoring locations and trigger levels.

Consequently, while compliance should ultimately be assessed against measured environmental outcomes, there remains an inherent reliance on groundwater model outputs when establishing environmental outcomes, monitoring criteria and trigger levels. The distinction drawn in the guideline is conceptually sound; however, in practice the two are often closely linked.

SACOME recommends the guideline acknowledge this practical relationship to better reflect how groundwater models are used in developing environmental outcomes and monitoring programs.

Recommendation 5: Strengthen the application of risk-based and proportionate assessment requirements

SACOME supports the guideline's recognition that not all mining operations have the potential to impact groundwater and that groundwater assessments should be proportionate to the level of environmental risk.

To reinforce this principle, SACOME recommends the guideline more explicitly distinguish between expectations for low, moderate and high-risk projects. This would provide greater confidence that the level of investigation, monitoring and modelling expected by regulators remains commensurate with project scale and environmental risk.

SACOME also considers there is an opportunity for the guideline to provide greater guidance on the assessment of amendments to existing approved operations. While the guideline focuses primarily on new applications, the same principles of proportionality should apply where proponents seek to modify approved activities.

Where a proposed amendment can be demonstrated to reduce groundwater impacts or environmental risk, the level of assessment should also be proportionate to the residual risk. In these circumstances, proponents should, where appropriate, be able to rely on existing approved studies, monitoring data and previous assessments, rather than being required to undertake a comprehensive reassessment of matters that have already been addressed.

Clarifying this principle would better align the guideline with its stated objective of promoting fit-for-purpose assessments, while encouraging proponents to implement operational improvements that deliver better environmental outcomes.

Conclusion

SACOME supports publication of the guideline and appreciates the Department's efforts to improve the consistency and quality of groundwater impact assessments.

The recommendations outlined in this submission would further strengthen the guideline by providing greater certainty for proponents, promoting consistent and proportionate regulatory expectations, and supporting fit-for-purpose, risk-based groundwater assessments that reduce unnecessary cost and rework while maintaining appropriate environmental protection.

Summary of Recommendations

SACOME recommends the following amendments to strengthen the guideline:

1. Provide additional guidance on proportionate groundwater monitoring requirements, including indicative expectations for monitoring bore density, baseline monitoring periods, seasonal monitoring requirements and how monitoring expectations should vary according to project scale, complexity and environmental risk.
2. More clearly articulate the circumstances in which conceptual assessments, analytical methods and numerical groundwater modelling are appropriate, supported by a simple risk-based decision framework.
3. Clearly distinguish statutory requirements from departmental guidance and recommended leading practice to improve consistency in interpretation.
4. Acknowledge the practical role of groundwater models in establishing environmental outcomes, monitoring criteria and trigger levels, while maintaining that compliance should be assessed against measured environmental outcomes.
5. Reinforce the application of risk-based and proportionate assessment principles by:
    - distinguishing expectations for low, moderate and high-risk projects; and
    - recognising that amendments which demonstrably reduce groundwater impacts or environmental risk should be subject to assessment requirements proportionate to the residual risk, drawing on existing approved studies and monitoring information where appropriate.