

Submission to

Productivity Commission

**Mineral and Energy Resource Exploration
Draft Report**

130715

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Introduction

NSW Irrigators' Council (NSWIC) represents more than 12,000 water access licence holders across NSW. These water licence holders access regulated, unregulated and groundwater systems. Our Members include valley water user associations, food and fibre groups, irrigation corporations and community groups from the rice, cotton, dairy and horticulture industries.

NSWIC engages in advocacy, policy development, public and media relation. As an apolitical entity, we are available for the provision of advise to all stakeholders and decision makers. NSWIC is an expert in water resource management and hence will only comment on those aspects of the Draft Report that directly relate to water resources.

This document represents the view of Members of NSWIC with respect to the Productivity Commission's inquiry into *Mineral and Energy Resource Exploration - Draft Report*. However each Member reserves the right to independent policy on issues that directly relate to their areas of operation, or expertise or any other issues that they may deem relevant.

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Executive Summary

NSWIC understands that the Productivity Commission (PC) is tasked with identifying unnecessary regulatory burden for mineral and energy resource exploration activities but we stress that the focus is misguided in that quality and not quantity of regulation governing mining and energy resource exploration activities must remain the priority.

As we have outlined in our previous submission to this inquiry, there are severe inefficiencies in the current NSW regulation governing mining and energy resource exploration activities. We have provided ample evidence of the shortcomings of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the *Mining Act 1992* (Mining Act), the *Petroleum (Onshore) Act 1991* (Petroleum Act) and the *NSW Aquifer Interference Policy* and how these shortcomings threaten water resources in the state.

Given the strength of the evidence provided, NSWIC is disappointed that the Draft Report has not addressed the water specific concerns that NSWIC and its members have raised in the last submission. NSWIC had expected to see feasible and rational recommendations being made that address the multitude of water issues surrounding mining and energy resource exploration activities in NSW.

We remain of the opinion that water resources in NSW are increasingly under threat from rapidly expanding mineral and energy resource extractive industries. Not only does the scale of those industries exhibit concern among water access license holders, but the scope of activities span across all areas of NSW. With inadequate regulation currently in place, water resources will continuously be at risk of possible irreversible damages which would have devastating effects on the communities, the environment and other industries in NSW.

Far from being "too much" or "unnecessary" regulation, the current regulation clearly favors mining and CSG industries in NSW. Since the first mining legislation codified the ownership of minerals vests with the Crown, we have seen a continuous and rapid expansion of mining and energy resource extractive activities in NSW with little to no regulatory scrutiny - particularly at the exploration stage. In light of the inherent deficiencies, NSWIC submits that an urgent legislative reform must be conducted that comprehensively addresses all these inadequacies and ensures that NSW's water resources are protected and preserved against all current and future mining and energy resource extractive industries.

NSWIC has stressed in its last submission that it is not against mining or other resource extractive industries, but that a balance needs to be struck between the preservation of the state's significant agricultural production and the exploration and extraction of the state's coal and coal seam gas (CSG) reserves. Such a balance would enable the sensible coexistence between both industries - mining and agriculture - which will ultimately allow both industries to grow and thrive. It must furthermore be recognized that damages to the state's vital water resources might be irreversible and as such a 'no regrets' approach must be taken for any mining and CSG regulation.

As outlined in our previous submission, NSWIC primary concern lies with the indefinite protection and preservation of NSW's water resources - both ground and surface water. As such, NSWIC submits that this inquiry identifies if current regulation adequately addresses the following key criteria in respect to water resources;

- All relevant regulation governing mining and energy resource extractive activities apply state wide;
- All relevant regulation governing mining and energy resource extractive activities apply to all water resources (ground and surface);
- All relevant regulation governing mining and energy resource extractive activities apply through all stages of mining and CSG activities (exploration, operation and post closure);
- All relevant regulation governing mining and energy resource extractive activities ensure that all mining and energy resource extractive activities are subject to the same binding Aquifer Interference assessment process.
- All relevant regulation governing mining and energy resource extractive activities do allow any exemptions from state significant projects.

While NSWIC realizes that these key criteria are not limited to the exploration stages of mining and CSG activities, we believe that they ensure that the state's water resources are adequately protected from all mining and energy resource extractive activities in the future.

General Comments

While the Productivity Commission (PC) has identified that the number, size and quality of resource discoveries in Australia is declining, it must be recognised that exploration licences have been issued for nearly all area of NSW. With insufficient and inadequate regulation imposed on these activities, the scale and scope of possible mining and CSG exploration activities significantly threatens water and land resources in the state.

Furthermore, it must be acknowledged that mineral and other energy resource exploration activities have already had a significant impact on water resources and irrigated agricultural production in NSW and that this impact will continue to expand with further growth of mining and energy resource extractive activities.

One of the impacts we have observed is the increased competitive pressure on land, labour and water resources which underpin irrigated agricultural production. The increased demand from mining and energy resource extractive industries has increased costs for irrigated agricultural producers which has added to the overall financial constraints that irrigators in NSW are experiencing. While the Draft Report outlines that the exploration sector is experiencing rising costs and lower productivity, it must be acknowledged that other sectors are under the same cost pressures. The cost of vital inputs into irrigated agriculture - water and electricity - have exponentially increased in recent years, leaving irrigators with lower returns and profits margins as the cost increases cannot be passed on. Irrigated agricultural producers are price takers in domestic and international markets and hence are unable to adjust their output prices to accommodate the increased costs.

Furthermore, the potential threat from mining and energy resource exploration activities on water resources - i.e. structural damage to existing water resources, contamination and changes in water pressure and quality - is another significant concern for NSWIC. While data and information on mineral and energy resource deposits are extensive, insufficient work has been done to assess the impact of mining and energy resource exploration and extraction on water resources.

We reiterate that irrigators in NSW have to comply with two main water related regulation - the *Water Management Act 2000 (NSW)* (WMA 2000) and the *Water Act 2007* (Water Act). These two Acts set out the guidelines and management framework for water resources in the state. According to the WMA 2000 the objective is;

(...) to provide for the sustainable and integrated management of water sources in the State and for the benefit of both present and future generations and in particular;

(a)...

(b) to protect, enhance and restore water sources, their associated ecosystems, ecological processes and biological diversity and their water quality, (and)

(c) to recognise and foster the significant social and economic benefits to the State that result from the sustainable and efficient use of water,
i. benefit to the environment, and

*ii. benefits to urban communities, agriculture, fisheries, industry and recreation, (...)*¹

Given the rapid expansion of mining and energy resource extractive activities in NSW and the insufficient and often conflicting regulatory framework governing these activities, NSWIC is greatly concerned that the objectives of the WMA 2000 are not adequately fulfilled. In light of further expansion of mining and energy resource extractive activities, the long term future of NSW's water resources - both ground and surface - and the productive capacity of those industries dependent on them will be severely threatened.

While mining and energy resource extractive activities will require a water access licence if water is diverted from a particular water source, insufficient regulation exists that governs surface or groundwater impacts of exploration activities. While the NSW Aquifer Interference Regulation was initially designed to address this regulatory void, it has since then been downgrading to a policy. This shows that the protection of water resources is clearly subordinated to the needs of the mining and other energy resource extractive industries.

With focus on the inadequacies of existing regulation to manage exploration activities in NSW, NSWIC emphasizes that the inquiry's narrow focus on exploration activities alone does not capture the scope and impact of mining and energy resource extractive activities in NSW. A more comprehensive approach and assessment must be taken that analyses the full impact of mining and energy resource extraction on the socio, environmental and economic wellbeing in NSW.

¹ Water Management Act 2000 (NSW), Section 3(b)

NSWIC Policy

NSWIC would like to reiterate its policy on mining and coal seam gas operations at this point. We have continuously declared that NSWIC is not opposed to the mining industry or its future development and we recognize that there can be significant social and economic benefits which in many instances can be delivered with limited negative impact to communities, businesses and the environment. We also recognise that these benefits may accrue at an individual level, a community level, a regional level or a state-wide level. We do however stress that in several instances, the social and economic costs of mining and other energy resource extractive activities outweigh the benefits. It is therefore absolutely essential to proceed with caution on any further mining and CSG activities.

For that purpose NSWIC has adopted a policy on mining and coal seam gas that outlines the following key axioms;

"The preservation of sustainable resources for agriculture - including water - must be absolute in addressing mining exploration or operational licence applications."

"NSWIC advocates a strict "no regrets" approach to the licencing of both exploration and operations in mining in respect to water resources."²

As minerals and other energy resource deposits are non-diminishable, it is absolutely critical to understand the impact that the exploration and extraction of those resources has on the productive capacity of water resources in the state. In light of the currently available knowledge, NSWIC is not convinced that the impacts of mining and energy resource exploration are yet sufficiently understood or that mining and energy resource extractive industries have proven beyond reasonable doubt that their activities have had no impact on water resources - both ground and surface.

By its nature, mineral and energy resource extraction is a short to medium term activity. Once the resource has been extracted, the business ceases to operate and an equilibrium has to be reestablished. Agriculture, on the other hand, is a sustainable long term activity. Sensibly managed, its use of renewable resources - both land and water - will allow for food and fibre production indefinitely. We believe that this fact must underpin the regulatory framework governing mining and energy resource exploration and further studies should be commissioned to determine the long term revenue stream of both industries to allow for a sensible comparison of the most efficient use of current resources.

Furthermore, while irrigators are subject to significant obligations in respect to access, reliability, quality and impact, we consider it vital that the regulatory framework governing mining and energy resource extractive activities must be equally stringent, rigorously implemented and enforced.

NSWIC has outlined in its policy that areas of concern with regards to mining and energy resource extractive activities relate to;

² NSWIC Policy on Mining and Coal Seam Gas, available under Appendix A

- **Access**

There must be no circumstance under which the watercourse or aquifer is damaged or altered either permanently or temporarily.

- **Reliability**

There must be no interference with a water source which would cause a change in the reliability at both short or long term intervals.

- **Quality**

There must be no change to the beneficial use characteristics of a water source. Contaminated water - be it through mining or an adjunct process - is unacceptable and must be vigorously guarded against.

- **Availability and Use**

There must be no exemption to the licence requirements for mining and energy resource extractive industries. Any take of water in association with mining and energy resource exploration and extraction must be accounted for.

As a first principle, NSWIC submits that there cannot be any negative impacts on third parties as a result of mining and energy resource extractive activities. Where an exploration permit is sought, the applicant must be able to prove beyond reasonable doubt that the exploration activity under the permit will not cause any damage to the water source and hence not have any negative third party impacts.

Furthermore, NSWIC believes that a risk management approach is the most appropriate framework to avoid impacts during any stage of mining and energy resource extraction. Such an assessment must be undertaken by a suitably qualified independent party and must take into account potential cumulative impacts. Such an assessment may utilise a risk management matrix that allows variance for high value or strategically important areas to ensure that the response meets the potential threat. Based on such an assessment, a security bond mechanism must be determined and enforced such that the NSW government holds a financial instrument capable of fully compensating for any damages that may occur.

The risk management approach and matrix must also take into account the environment and water resource history of the applicant. Where an applicant has a poor history - breaches of entitlements by it or an associated entity - or said applicant has no history of managing water or mitigating water resource impacts - their potential threat level must be increased. Regular oversight and reporting against conditions on permits must be made mandatory and full transparency of the results must be guaranteed.

Finally, breaches of conditions at any phase must be considered a 'reportable incident' and state authorities must, at the expense of the operator, provide a publically accessible report of the breach and must notify stakeholders directly of the breach, what measures were taken to avoid the breach and what additional conditions will be imposed as result of the breach.

PC Draft Recommendation

NSWIC would like to make the following specific comments to the recommendations outlined in the PC Draft Report;

Exploration licensing and approvals

1. *Government should ensure that their authorities responsible for exploration licensing:*
 - *prepare and publish information on the government's exploration licensing objectives and the criteria by which applications for exploration licenses will be assessed.*
 - *publish the outcome of exploration licence allocation assessment, including the name of the successful bidder and the reason why their bid was successful.*³

As outlined previously in this submission, exploration licences have already been issued for most areas of NSW. As such, this recommendation is hardly relevant for the state. As ex post regulation of existing exploration licences is difficult, NSWIC submits that the PC recommendations should explicitly include the renewal process of exploration licences. Should the renewal of an exploration licence not fulfill the government's exploration licensing objective, then the renewal of the licence should not be granted.

Furthermore, the government's objectives and criteria should be comprehensive, transparent, and be based on precautionary principles to ensure the protection and preservation of the state's land and water resources.

2. *Where possible, governments should not allocate exploration licences for tenements that would be too small or too irregular a shape for an efficient mine or production well to be established. The release of exploration tenements should be deferred until tenements of appropriate size and shape can be issued.*⁴

While this recommendation would potentially optimize the usage of land for mining and energy resource exploration activities, it does not take into account alternative land uses and the impact such mining/ CSG tenements would have on the community, the environment and other industries in the area. With increases in the size of the tenements, there will likely be a direct proportional increase in the impact of mining and energy resource extractive activities on others. Hence a deferral until the tenement is large enough to accommodate the mining or energy resource extractive activity does not address the fundamental issue of impacts on land and water resources. As such, NSWIC submits that the recommendation is amended to;

³ PC Draft Report, P.27

⁴ Ibid.

.. as long as the size of the tenement does not impose any impacts on third parties.

- 3. If an Act requires the Minister to notify a person of a decision regarding an exploration licence, the Act should require that the notice include the reasons for the decisions.*

NSWIC does not subject to the notion that reasons should be given for a particular decision, however NSWIC submits that the Act should also allow for an appeal process by the individual affected by the decision.

- 4. Where not already implemented, governments should ensure that at a minimum their lead agencies responsible for exploration, coordinate exploration licensing and related approvals (such as environment and heritage approvals). This should include the provision of guidance on a range of approvals that may be required and on how to navigate the approval processes.⁵*

NSWIC strongly supports the coordination of activities and regulation by various state and federal entities, however we emphasize that more detail needs to be provided on 'who' will receive the guidance and whether stakeholder consultation will be sought as part of the approval process. Furthermore, NSWIC would like to reiterate that emphasis needs to be placed on the quality of the regulation rather than on the coordinate guidance to be provided by various entities.

The coordination of these activities must also ensure that the lead agency seeks input from other relevant government departments and experts to assess the appropriateness of the approval framework.

- 5. Governments should ensure that their regulators publish target timeframes for approval processes, including exploration licensing and related approvals (for example environmental and heritage approvals). The lead agency for exploration should publish whole-of-government performance reports against these timeframes on their websites.*

NSWIC is concerned that the establishment of target timeframes, might reduce the time necessary to conduct thorough risk analysis and impact assessments. As knowledge on the short, medium and long term impacts of mining and energy resource extractive activities remains limited, we submit that the approval process should be 'outcome' based rather than 'timeframe' based. As such, appropriate criteria must be set, tested and verified before an approval for exploration is given.

⁵ PC Draft Report, p.27

Land Access

6. *Drawing on the guiding principles of the Multiple Land Use Framework endorsed by the Standing Council on Energy and Resources, Governments should, when deciding to declare a new national park or conservation reserve in recognition of its environmental and heritage value, use evidence-based analyses of the economic and social costs and benefits of alternative or shared land use, including exploration. Government should, where they allow for consideration for exploration activity, assess applications by explorers to access a national park or conservation reserve according to the risk and the potential impact of the specific proposed activity on the environmental and heritage values and on other users of that park or reserve.*⁶

NSWIC submits that the scope of 'alternative land use assessment' is expanded to also include usage of land for agricultural purposes. As mining and other energy resource extractive industries already have already impacted agricultural producers in NSW, a thorough analysis on the impact these activities have on agricultural producers must be undertaken before an exploration licence is granted or renewed.

7. *State and territory governments should ensure that land holders are informed that reasonable legal cost incurred by them in negotiating a land access agreement are compensable by explorers.*

NSWIC does not reject the recommendation that land holders should be informed that reasonable legal cost incurred by them in negotiating a land access agreement are compensable by explorers, however we do submit that more clarity must be provided around what 'reasonable legal costs' are and how the process of arbitration is handled in this circumstance.

NSWIC strongly urges the Productivity Commission to consider the unequal playing field in which individual land holders operate. The expertise, financial capacity and time available to mineral and other energy resource entities are significantly larger than for individual land holders. As such, NSWIC submits that this inquiry recommends steps to equalise these imbalances to ensure that all parties involved have access to the same amount of information, expertise and financial capabilities.

8. *Governments should ensure that the development of coal seam gas exploration regulation is evidence-based and is appropriate to the level of risk. The regulation should draw on the guiding principles of the Multiple Land Use Framework endorsed by the Standing Council on Energy and Resources to weigh the economic, social and environmental costs and benefits for those directly affected as well as the whole community, and should evolve in step with the evidence.*⁷

While NSWIC supports evidence based assessment, we would like to add that the process must involve a 'no regrets' approach. Should the possible risk of damage to water and land resources be too high, exploration licences should not be granted or renewed.

⁶ Ibid, p. 28

⁷ PC Draft Report, p.28

Furthermore, any risk based framework must ensure that it applies uniformly across the state and incorporates all mining and energy resource extractive activities.

Environmental Management

9. *The Commonwealth should accredit the National Offshore Petroleum Safety and Environmental Management Authority to undertake environmental assessments and approvals under the Environment Protection and Biodiversity Conservation Act for petroleum activities in Commonwealth waters.*
10. *The Commonwealth should improve the efficiency of environmental assessment and approval processes under the Environment Protection and Biodiversity Conservation Act by strengthening bilateral arrangements with the states and territories for assessment and establishing bilateral agreements for the accreditation of approval processes where the state and territory processes meet appropriate standards. The necessary steps to implement this reform should be properly scoped, identified and reviewed by jurisdictions and a timetable for implementation should be agreed.⁸*

NSWIC would like to stress that the regulation of water resources in NSW are already governed by the Water Act and the WMA 2000. We are concerned that a move towards regulation by a national body could impact water and land resources in NSW. Without further information on the details of this accreditation, NSWIC is unable to support this process.

11. *Governments should ensure that their environmental-related regulatory requirements relating to exploration:*
 - *are the minimum necessary to meet their policy objectives;*
 - *proportionate to the impacts and risk associated with the nature, scale and location of the proposed activity.*
12. *Governments should ensure that when there is scientific uncertainty surrounding the environmental impacts of exploration activities, regulatory settings should evolve with the best-available science and decisions on environmental approvals should be evidence-based.⁹*

While NSWIC welcomes the recognition of evidence and science based analysis relating to the impact of mining and energy related extractive activities, we submit that a 'no regrets' approach must be taken to ensure that water resources in NSW are protected. Should considerable uncertainty surrounding mining and energy resource related activities exist, then further work should be conducted that evaluates all possible outcomes, before any further steps are being taken. As such, NSWIC submits that no further mineral or energy resource related activities must be allowed until such time that it is proven beyond reasonable doubt that the activities will have no detrimental impact on land and/or water resources.

⁸ Ibid. p.30

⁹ Ibid.

13. Governments should clearly set out in a single location on the internet environment-related guidance on the range of approvals that may be required.

14. Governments should ensure that their authorities responsible for assessing environmental plans and environmental impact statements should make achieved industry data publicly available on the internet.

The provision of information and the consolidation of data is strongly supported by NSWIC however further detail must be provided on the methodology on the environmental impact statements and a review of the appropriateness of such analysis must be undertaken.

Conclusion

NSWIC emphasizes that it is not the quantity but quality of regulation that should be focus of the PC inquiry. As we have highlighted in our previous submission, there remains severe inefficiencies with the current regulation governing mining and energy resource extractive activities. We have provided ample evidence to show that shortcomings of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the *Mining Act 1992* (Mining Act) and the *Petroleum (Onshore) Act 1991* (Petroleum Act) and the NSW Aquifer Interference Policy.

We call on the Productivity Commission to address these water resource related issues urgently so that NSW's water resource can be protected from possible damage of mining and energy extractive activities.

Appendix A:



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Mining and Coal Seam Gas Approvals; Protecting Water Resources

Policy

110829

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Introduction

NSW Irrigators' Council (NSWIC) represents more than 12,000 irrigation farmers across NSW. These irrigators are on regulated, unregulated and groundwater systems. Our members include valley water user associations, food and fibre groups, irrigation corporations and commodity groups from the rice, cotton, dairy and horticultural industries.

This document represents the views of the members of NSWIC. However each member reserves the right to an independent view on issues that directly relate to their areas of operation, or expertise, or any other issues that they may deem relevant.

Executive Summary

This document sets out the policy of NSWIC in respect of the issuing of permits for mining, including for coal seam gas, across this state, for both exploration and operations.

The preservation of sustainable resources for agriculture – including water – must be absolute in addressing mining exploration or operational licence applications.

NSWIC advocates a strict “no regrets” approach to the licencing of both exploration and operations in mining in respect of water sources.

NSWIC believes that a strong aquifer interference policy must be developed, extended to all water sources, be of regulatory strength (not simply policy) and rigorously implemented and enforced.

Background

Our constituency and expertise is linked to water, both surface and ground. It is on that basis that this policy was drafted and accepted. NSWIC claims significant expertise in water resource management, but not in respect of mining, gas extraction or processing.

This policy is limited to the potential impacts of mining, including coal seam gas extraction, on water resources. This does not preclude NSWIC – or any of its Member organisations – from holding additional or separate policy positions on other issues with the mining industry that affect our stakeholders.

NSWIC is not opposed to the mining industry nor to its further development. We recognise that there may be significant social and economic benefits which in many instances can be delivered with limited negative impact to communities, to businesses and to the environment. We recognise that benefits may accrue at an individual level, a community level, a regional level and a state-wide level. In light of a sustained attack on productive water use, any additional economic activity generated by mining may be much needed by many communities.

NSWIC believes that the local and regional social and economic costs of mining activity may, in many instances, outweigh the benefits. A full analysis of both costs and benefits across the long term must be undertaken by independent experts and fully published.

By its nature, resource extraction is a short to medium term activity. Once the resource has been extracted, the business ceases to operate. Agriculture, on the other hand, is a sustainable long term activity. Sensibly managed, its use of renewable resources allows for food and fibre production indefinitely. We believe that this fact must underpin a basic policy proposition; the preservation of sustainable resources for agriculture – including water – must be absolute in addressing mining exploration or operational licence applications.

Potential Impacts

NSWIC has considered the potential impacts that mining activity may have on water resources. We have considered both ground and surface water sources, as we believe that both stand to be impacted by mining operations.

Irrigators are subject to significant obligations in respect of access, reliability, quality and impacts. These are largely contained with the *Water Management Act* and subordinate legislation. That is, irrigators face a legislative regime to manage, preserve and protect the water resource. We believe that mining and coal seam gas operations must be subject to a process that is *at least* as prescriptive and enforced.

Whilst it would seem a simple process to regulate and monitor individual operations to avoid impacts, NSWIC is concerned at the likelihood of cumulative impacts of multiple operations in and around individual water sources.

The Water Resource – Access

Physical access to the water resource – and its integrity – is a non-negotiable threshold requirement for NSWIC. There must be no circumstances under which the watercourse or aquifer is damaged or altered either permanently or temporarily.

Examples of such damage might be cracking an underground aquifer such that water is able to escape or become depressurised. In surface water, the diversion of a watercourse or escape to, say, an open cut that would not otherwise have occurred is a similar example, as is land and watercourse subsidence from long-wall operations.

Examples of temporary damage might include transfer of drilling fluids in the period prior to permanent casing.

The Water Resource – Reliability

The value of a water resource and an associated extraction licence to an irrigator is not only access to it, but the reliability of it. Irrigation necessarily involved the precise application of water resources at precise times. Impact on the reliability at both short and long term temporal intervals will have a material negative impact on irrigators.

Examples of reliability impacts might include temporary loss of availability.

The Water Resource – Quality

NSWIC is concerned at diminution of water quality from mining operations including salinity impacts and the addition of chemicals to water sources. It is our policy that contaminated water – be it through mining process or an adjunct to operations – is utterly unacceptable and must be vigorously guarded against. Any returned water must be of a quality *at least* equal to or higher in quality to independently assessed benchmark data obtained prior to operations commencing. NSWIC will not accept averaging of water quality testing, but requires that all returns meet this standard.

Examples of such impacts may include incursion of saline water and other contaminants to either surface or ground water as part of extraction operations. The injection of chemical-laden liquids to achieve hydraulic fracturing clearly has the potential to significantly diminish water quality, aside from the potential damage to the physical structure of an aquifer.

The Water Resource – Availability and Use

NSWIC is aware that mining operations and exploration are often significant users of water. We absolutely oppose the granting of water use exemptions in either case. Mining, by its nature, is a commercial activity. Commercial options to obtain water for use exist in the form of tradeable water entitlements. NSWIC insists that all mining use of water must be on the basis of licensed extraction to avoid third party impacts associated with further allocation in fully allocated systems.

Measures to Avoid Impacts

NSWIC recognises that there are essentially three separate phases of mining activity where water resources must be protected; exploration, operation and post-operation.

We believe that a risk management approach needs to be adopted to avoid impacts.

NSWIC believes that each phase must be adequately regulated. We are content for this to be achieved by a Regulation based on an aquifer interference policy in conjunction with Water Sharing Plans. We require that in areas where Water Sharing Plans are not yet finalised, any mining activity – including exploration – must be deferred until such time as the Plan is finalised and active. We further require that the aquifer interference policy and regulation be extended to all water sources, not simply underground aquifers. We may be content with alluvial aquifers being included which essentially protect surface watercourses.

Council is concerned that there may be instances where no alluvial aquifers are situated adjacent to surface water courses, such as where a surface water course passes through a hard rock zone. In these instances, Council requires a methodology where a deemed alluvial aquifer exists or another legislative measure is used to enforce the conditions of the aquifer interference regulation.

Council is further concerned at impacts occasioned by interaction between deep and shallow aquifers. We understand that a stacked aquifer policy may address this, but reserve comment until such policy is understood.

An approved suite of tests – including isotope testing – must be undertaken (at least quarterly) and reported against by a suitably qualified independent entity at the expense of the proponent at each of the phases listed below.

Exploration

NSWIC acknowledges that the exploration phase of mining operations may pose a comparatively lower risk to water sources than full operations in some cases. At the same time, we believe that potential damage at this phase remains significant and hence protection mechanisms must be strongly made and rigorously enforced.

In the first instance, we believe that a “no negative impacts to third parties” approach must be adopted, save and except to levels that would be permitted pursuant to a Water Sharing Plan. Where an exploration permit is sought, the applicant must be able to prove that operations under the permit will not negatively impact third parties in respect of water resources. Such proof must be independently verified.

Where an applicant is required to provide proof of any matter, NSWIC believes that the burden must be that of “beyond reasonable doubt”.

We believe that an assessment of potential damage must be undertaken by a suitably qualified independent third party. This assessment must take into account potential cumulative impacts. Such an assessment may utilise a risk management matrix that allows

variance for high value or strategically important areas to ensure that the response meets the potential threat. Based on such assessment, a security bond mechanism must be determined and enforced such that the state holds a financial instrument capable of fully compensating for any damage occasioned.

The risk management approach and possible resultant matrix must also take into account the environmental and water resource history of the applicant. Where an applicant has a poor history – breaches of entitlements by it or an associated entity – or said applicant has no history in managing environmental and water resource impacts, their potential threat level must be increased.

Any take of water – either deliberate or inadvertent – as an adjunct to exploration must be fully accounted. Where threat levels are assessed on a higher scale according to the proposed matrix, this accounting must be required up front. That is, an operator must hold an entitlement (temporary or permanent) equivalent to the potential take from exploratory operations at the commencement of such operation.

Regular oversight and reporting against conditions on permits must be required and full transparency of the results must be guaranteed.

Operation

NSWIC believes that the operation phase has the greatest potential to cause significant damage to water sources and, as such, advocates that the strictest conditions and requirements be imposed at this phase. It is our position that all of the requirements for exploration permits must be continued and built upon, together with additional requirements being imposed.

As the potential for damage is significantly more considerable, the security bond mechanism and risk matrix analysis must again be used but must result in significantly higher values of bond held. The risk matrix analysis must include consideration of performance against requirements at the exploration phase both on the current proposal and on any previous operations by the proponent or any associated entity.

A full benchmarking process of the immediate and surrounding areas of the proposed operations must be conducted prior to the commencement of any activity. This must be completed by an independent entity and the results must be fully transparent and available publicly. It is against this benchmark data that all compliance must be measured over the course of operations.

As a minimum, quarterly testing of water quality, water quantity, pressure and availability must be undertaken and reported against the benchmark data. Again, this testing must be undertaken by an independent entity and be made publicly available. Where the risk matrix indicates a higher risk operation, testing at a greater frequency must be considered.

Any negative impact reported against a benchmark must be treated as a strict liability offence. That is, unless the operator can prove (on the balance of probabilities) that the damage was occasioned by an event or events *other than* those for which they are responsible, they must be held liable for the damage occasioned.

Produced Water

NSWIC recognises that operation of both mining and coal seam gas extraction routinely results in water being extracted, either subsequent to injection or as a tangent to operations.

As a basic premise, NSWIC notes that all extractions (other than recovery of injected water) must be pursuant to a Water Access License.

Where extracted water is of lower quality than the surrounding source and needs to be either stored or disposed of, a strict management regime must be required and rigorously enforced. Storage must be effected by a “closed system” that allows no opportunity for leakage or evaporation. Treatment of contaminated water (be it saline extracted water or recovered water from operations that contains chemicals) must include filtration to remove heavy metals. Independently verified testing of both input and output to treatment must be undertaken and made publicly available.

Any water to be reinjected or released in any fashion must be to *at least* the quality of the surrounding sources based on independently tested and publicly reported benchmark data.

Post Operation

By their nature, mining operations have a limited lifespan. The impacts on water resources, however, may not be restricted to that same lifespan.

It is the position of NSWIC that applications for operations permits must include an identifiable and third party verified withdrawal strategy with respect to water sources. That is, before a permit is issued and operations allowed to commence, an exit strategy that deals with how water management issues will be dealt with on withdrawal must be provided and independently verified.

At the conclusion of operations, independent verification of potential damage that may still be occasioned (taking into account the withdrawal strategy) must guide the quantum of security bond to be kept and the period over which it must be kept. The same verification must address the potential water requirements (leeching, inadvertent take and the like) that the site is likely to demand. Those demands must then be fully accounted (by acquisition of entitlement) and held until proof is presented that such requirements are not longer present.

Other Matters

At the time of writing, NSWIC is concerned at the capacity of Government regulatory bodies to deal with the anticipated scope of mining and coal seam gas exploration, operations and post-operation requirements pursuant to this policy. Without adequate resourcing – and efficient use of those resources – Council believes that the most rigorous of policy will be meaningless.

We specifically believe that industry self-regulation and self-reporting is meaningless and must be abandoned as a protocol or measure of protection, specific or implied.

Breaches of conditions at any phase must be considered a “reportable incident”. The State authorities must, at the expense of the operator, provide a publicly accessible report of the breach and must notify stakeholders directly of the breach, what measures were taken to avoid the breach and what additional conditions will be imposed as a result of the breach.

ENDS