MINERALS COUNCIL OF AUSTRALIA

PRODUCTIVITY COMMISSION ISSUES PAPER ON NATIONAL WATER REFORM

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

The Minerals Council of Australia supports the Intergovernmental Agreement on the National Water Initiative (NWI). The Australian minerals industry has a long-standing commitment to the effective and responsible management of Australia's precious water resources.

At a national level, the minerals industry is a relatively small water user, but can be a significant user at a local level. The economic value generated by the industry is significant at the national, regional and local level.

The MCA supports the integration of the minerals industry into NWI compliant regimes, however a number of barriers remain. It is imperative that any revised NWI maintains sufficient flexibility to account for the unique characteristics, constraints, geology and geography of minerals industry water use.

Clause 34 provides for transitional (alternative) arrangements that recognise the additional barriers and regulatory hurdles applying to the minerals sector that if not properly considered and addressed would lead to inequitable treatment. These transitional arrangements should still be applied in a manner which is consistent with the core principles of the NWI.

Clause 34 has been an important measure to accommodate sector specific challenges. These measures will continue to be required until fit for purpose water planning, access and entitlement regimes are widely established.

Historically, agriculture has been the largest water user in Australia and so it is logical that the NWI is founded in the broad experience of agricultural water use. The minerals industry accesses and uses water very differently which has meant that the untailored application of NWI principles to the industry has been a challenge.

Minerals industry water use differs from that of other water users. The industry accesses water for both consumptive and non-consumptive purposes to allow for safe operation and may supply water to third parties. Mining operations often access low quality water which is unsuitable for other water users and unlike other industries, may require contingency licencing for potential maximum water take.

Due to sectoral specific regulatory requirements – many of which are fully duplicated between the state/territory and federal level - the industry's water use faces a level of regulatory review and sustained stakeholder oversight greater than other water users. While these processes are expensive and uncertain, the industry has responded to this interest through elevated transparency around its water use. The industry is proud of the sector's achievements of reporting water use, through ongoing public reporting. Australia is recognised as a global leader in the industry's consistent and voluntary reporting of water use.

Many areas in which industry operates are unsuitable for water markets and trading. This includes areas where there is an absence of other water users or the water resource is unsuitable for market development – for example, poorly connected groundwater systems. The industry is also subject to regulations not required of other water users at both the state/territory and federal level.

While progress has been made in the integration of the mining industry under the NWI, there remain several issues which require continued focus. Accordingly, the MCA recommends the following:

1. The NWI should not be allowed to lapse, while the implementation of water policy will always be challenging, the NWI has firm foundations and the MCA supports continued progress towards greater national consistency on water policy.
2. A revised NWI should acknowledge the specific circumstances and characteristics of minerals industry water use and the ongoing need for transitional arrangements. Similar to Clause 34,

this should provide for the ongoing use of management arrangements outside of the NWI where circumstances require.

3. The circumstances (or ‘compelling reasons’) under which the transitional arrangements apply should be defined to provide guidance to jurisdictions implementing a revised NWI.
4. The development of ‘fit for purpose’ water planning, access and entitlement arrangements that accommodate the characteristics of minerals industry water use, enabling industry to be better integrated into regional water planning or market arrangements.
5. Greater flexibility in water resource planning to consider new information and accommodate water resources of varying quality with a price signal that encourages the use of lower quality water.
6. Improved regulatory efficiency by reconciling water planning regimes with other regulatory frameworks and working to eliminate duplications, overlaps and inconsistencies between federal and state/territory regulatory frameworks.

1. INTRODUCTION

The Minerals Council of Australia appreciates the opportunity to provide comments on the Productivity Commission Issues Paper on National Water Reform.

The MCA represents Australia's exploration, mining and minerals processing industry, accounting for the majority of national minerals production. MCA members share a commitment to operating in a way that supports sustainable development for current and future generations.[1]

The MCA supports the Intergovernmental Agreement on the National Water Initiative (NWI). MCA member companies are signatories to *Enduring Value – the Australian Minerals Industry Framework for Sustainable Development* and have a long-standing commitment to the effective and responsible management of Australia's water resources.

The Australian Minerals industry actively contributes to the achievement of the United Nations Sustainable Development Goals (SDGs), the outcomes of which align with the industry's commitments under *Enduring Value*. The industry's activities often target reinforcing SDG outcomes, (e.g. SDG6: clean water and sanitation, SDG 14 Life below water, SDG15, Life on land and SDG17: Partnerships).[2]

At a national level, the minerals industry is a relatively small water user, however, the economic value generated is significant at the national, regional and local level. In 2016-17 the minerals industry represented around 3.7 per cent of national water consumption while generating between $141 million and $272 million gross value added per gigalitre used.[3] While a small water user at a national level, the industry can be a significant user at a local level.

The minerals industry is at the forefront of consistent water accounting and reporting, developing a sector-leading water accounting framework in 2011.[4] The framework has been adopted by MCA members and by industry globally, with components adopted by the Global Reporting Initiative corporate standard. The framework's metrics are used in company reports or on a regional basis.

Water availability and security of supply is a critical business risk for the minerals industry. Mining and minerals processing cannot occur without secure access to reliable water supplies.

The comments below are supplementary to comments provided at the water reform stakeholder working group meeting on 11 August 2020 and other industry discussions with the Productivity Commission.

[1] Minerals Council of Australia, *Enduring Value – The Australian Minerals Industry Framework for Sustainable Development*, MCA 2015.
[2] Cardno, *Sustainability in action: Australian Mining and the United Nations Sustainable Development Goal*, report for the Minerals Council of Australia, October 2018.
[3] Australian Bureau of Statistics, *Water Account, Australia, 2016-17, ABS, Canberra.*
[4] Minerals Council of Australia, *water accounting framework for the Australian Minerals industry*, MCA, Canberra.

2. NEED FOR TRANSITIONAL ARRANGEMENTS

- Clause 34 has been an important tool to support minerals industry transition under the NWI. While progress integrating the minerals sector has been made, the need for these arrangements remains.
- A revised NWI should acknowledge the barriers facing the efficient integration of the minerals sector into the water reform process and the need for flexible management arrangements. These flexible arrangements should be consistent with the principles of the NWI.
- The circumstances (or 'compelling reasons') under which the transitional arrangements apply should be defined to provide guidance to jurisdictions implementing a revised NWI.

The MCA notes the Issues Paper's references to the incorporation of extractive industries in entitlement and planning frameworks.[5] With respect to extractive industries, the paper references recommendation 3.1b of the Commission's 2017 inquiry into National Water Reform:[6]

> Recommendation 3.1b: State and Territory Governments should ensure that water entitlement and planning arrangements explicitly incorporate extractive industries, including ensuring that entitlements for extractive industries are issued under the same framework that applies to other consumptive users (unless there is a compelling reason otherwise).

The MCA supports the integration of the minerals industry into NWI compliant regimes, however a number of barriers remain. Accordingly, it is imperative that any revised NWI maintains sufficient flexibility to account for the characteristics, constraints and geography of minerals industry water use.

A large focus of the NWI has been on the agricultural water use. While appropriate, given agriculture is the largest rural water user and a reform process priority, it has meant fit for purpose arrangements in other industries including mining have had less opportunity to emerge. This can disadvantage those industries not fully recognised by these arrangements.

Ongoing reforms for water access arrangements need to consider the characteristics of water use by all users. Accordingly, water access regimes must recognise and account for the specific characteristics of extractive industry water use and return flows in the areas in which mining occurs.

NWI Clause 34 has been useful in helping to identify that there are particular requirements for the mining sector that need to be acknowledged in water planning. Clause 34 acknowledges:

> … there may be special circumstances facing the minerals and petroleum sectors that will need to be addressed by policies and measure beyond the scope of this Agreement. In this context, the Parties note that specific project proposals will be assessed according to environmental, economic and social considerations, and the factors specific to resource development projects, such as isolation, relatively short project duration, water quality issues, and obligations to remediate and offset impacts, may require management arrangements outside the scope of this Agreement.[7]

Clause 34 provides for transitional (alternative) arrangements that recognise the additional barriers and regulatory hurdles applying to the minerals sector that if not properly considered and addressed would lead to inequitable treatment. It has been an important measure to accommodate industry characteristics until these are appropriately accounted for in water planning, access and entitlement regimes.

[5] Australian Government, Productivity Commission, *National Water Reform - Issues Paper*, May 2020, p. 4,11.
[6] Productivity Commission, *National Water Reform – Inquiry Report*, Canberra, 19 December 2017.
[7] Australian Government, *Intergovernmental Agreement on a National Water Initiative*, 2004, p.6-7.

The MCA notes that since the 2004 NWI the regulatory requirements of a minerals project have multiplied and expanded, particularly around the issues of remediation and offset of impacts. No other sector is held to the same high standard of water management and regulation.

This is not a question of *special treatment* that would unjustifiably put mining on an unequal basis to other activities, but about *special and careful consideration* that recognises the unique ways in which mining interacts with water systems. Importantly, these requirements should be addressed in a manner consistent with the core principles of the NWI.

For example, many licences are short term and therefore introduce risk for long-lived mining projects. Alignment of water licence timeframes with project life and associated approvals would provide companies with confidence and significant project investments can be supported by water resources in the long term.

While progress in integrating the minerals industry under NWI has been made, this provision is still required. Accordingly, the MCA recommends a revised NWI continue to acknowledge the need for alternative and adaptive management arrangements to account for industry specific circumstances and water use.

The unique circumstances facing the industry are outlined below as they are not explicitly raised in the Issues Paper. These issues illustrate the ‘compelling reasons’ that can make incorporation of the extractives industries into water entitlement and planning arrangements a complex undertaking.

3. CHARACTERISTICS OF INDUSTRY WATER USE

- Minerals industry water use can differ from that of other water users
- The industry accesses water for both consumptive and non-consumptive use to allow for safe operation – this water may be on-supplied for third party use
- Mining operations often access low quality water unsuitable for other water users and require contingency licencing for potential maximum water take
- Mining operations through water treatment can improve the quality of otherwise unsuitable water and return this water to the consumptive pool for both environmental and other socio-economic benefits.

Minerals industry water use differs to that of other users such as agriculture. Water used by the industry is primarily self-sourced and operations frequently supply and operate their own water infrastructure and may supply water to a range of third parties either voluntarily or as required by regulation. Examples of the more unusual characteristics of mining water use are provided below:

The use of saline or hypersaline water

The industry uses a wide variety of water sources of varying quality, including saline water that is not fit for any purpose other than industrial applications. In some cases, such as the gold fields in Western Australia, deep hypersaline aquifers (which can be five or even ten times saltier than seawater) are pumped at significant cost to supply water for critical mine processing. Accordingly, this water is not a catchment flow, nor is it transferrable to other users after consumption. In many cases, operations treat this unusable water to make it suitable for site processes.

Water accessed for safe operation, not consumed

As a result of dewatering activities to make mines safe for operation, much of the mining industry's water take can be 'incidental'. This water, extracted from the ore body and surrounding groundwater, is normally managed on site or discharged into the environment in line with an operation's licence conditions. In some cases, this water is treated to make it suitable for the environment or other uses, including agriculture, before it is released.

Incidental water is not used or consumed by the mining industry. Instead, this water can be made available for downstream agricultural activities. In some cases, mining companies provide water to local communities and townships.

Contingency licencing

Dewatering volumes can vary from year to year depending on local geology and groundwater characteristics, rainfall patterns and other climatic factors. State authorisations generally require mining companies to hold water licences set at the maximum predicted water take for any given year over the anticipated life of an operation. This often includes a large contingency volume to enable companies to manage these variations.

It is important to note that many mines are located in areas prone to extreme variability, driven by tropical weather patterns and cyclonic activity. Accordingly, the contingency built into a water licence can be many times that of the actual annual water take by an operation. For example, there are mining operations in the Pilbara where the average annual take for dewatering (safety purposes) is only 30 per cent of licenced water take.

Mining projects may also secure water allocation of water entitlements greater than the demand requirements during average climatic conditions. For example, in coal mines located in Queensland the water supply allocations from third parties is strategically negotiated by mining companies to

account for water supply/demand profiles during dry periods. During the years where this occurs these allocations may be viewed as excessive or ‘water hoarding’. This ‘supply buffering’ is a strategy to ensure sufficient allocations for dry periods.

In the Bowen Basin many water supply schemes are supplemented by infrastructure such as dams, weirs, and pipelines. The industry’s contingency licencing means that water is often reserved in storage in a manner which increases water security for all water users in the catchment and also improves the likelihood of delivering on the environmental flow objectives for the riparian environment. In many cases this improved regional water security has triggered investments in higher value and more intensive agricultural uses such as cotton, citrus and feedlots.

Multiple licences for the same water

In some regions where the minerals industry is the dominant industry, water that is ‘dewatered’ from an operation in upper catchment areas is often captured by downstream operations, only to be again removed and discharged downstream. Different mines may hold licences for access to what is materially the same water. These arrangements (e.g. in the Pilbara) are often established to ensure water can be managed efficiently between different users while avoiding potential impacts arising form that water use.

In other cases, multiple licences are required as a result of inadvertent ‘double accounting’. For example, some state authorities may require that all water held within the ‘pit shell’ (mine void catchment area) has already been accounted for under a water licence. Where the pit shell area is protected from external surface runoff through a combination of topography and flow diversion structures what is recovered from the spoil (stored waste rock) within the pit shell has already been accounted for. In these circumstances, there should be no basis for requiring the licencing of water inflow from the spoil. This is consistent with the intention of the NWI and recognises the unique ways in which mining interacts with water systems.

Unique water storage and improvement

In some circumstance, industry may store water through managed aquifer recharge and storage, for use. Operations may also treat water to improve its quality which is then returned to the environment and for the benefit of other users.

4. FIT FOR PURPOSE WATER ACCESS ARRANGEMENTS

- The minerals industry faces a range of sector specific challenges in the implementation of water reform
- The industry often operates in environments unsuitable for water market development given geographical and geological constraints
- There is an ongoing need for 'fit for purpose' planning and entitlement/access arrangements to accommodate the atypical characteristics of minerals industry water use
- Industry water access is subject to a range of regulatory requirements at the state and federal level. There is an ongoing need to reconcile and rationalise these requirements with water planning frameworks.

Water reform challenges

The minerals industry faces a range of sector specific challenges in the implementation of water reform. These challenges relate to a lack of recognition of industry water use characteristics and coordination with other regulatory requirements.

While progress has been made, there is an ongoing need for 'fit for purpose' planning and entitlement/access arrangements to accommodate the atypical characteristics of minerals industry water use. While such arrangements may not necessarily be nationally compatible (e.g. market based water trading), they should still be consistent with the broad principles of the NWI. National compatibility, while desirable, should not be the principal objective.

The former National Water Commission considered the integration of extractive industries in detail. In its analysis, the Commission identified 'the need to institute an entitlement framework suited to the complexity of industries accessing water, enabling accurate accounting of water take and rules for management of third-party impacts'.[8]

The Issues Paper provides little commentary on the potential barriers to industry water access under the NWI compliant regimes (including market entry). Some of these issues are reiterated below:

Geographical and geological constraints

The minerals industry operates across regional and remote Australia. While water markets continue to be developed, these have tended to focus on surface water systems along the Eastern seaboard. In many areas in which the industry operates water markets either don't exist or are focussed on surface water allocation and not groundwater – a key water resource and management issue for industry.

Many areas in which industry operates are unsuitable for water markets and trading. This includes areas where there is an absence of other water users (i.e. potential market participants) or the water resource is unsuitable for market development – for example, poorly connected (fractured rock) groundwater systems.

Intersection with other regulatory frameworks

The minerals industry is subject to a range of legislative and regulatory requirements at both state and federal levels, which can directly and indirectly affect water access.

Environmental and other approvals are necessary to manage potential impacts on third parties and the surrounding environment. However, these requirements can also act a barrier to industry water access. For example, under the federal *Environment Protection and Biodiversity Conservation Act 1999* 'water trigger', a coal and coal seam gas projects seeking only to access water is likely to

[8] National Water Commission, *Water for mining and unconventional gas under the National Water Initiative*, NWC, 2014, p.6.

require Commonwealth approval in addition to state approvals and securing the appropriate water licence or entitlement (e.g. through water markets in New South Wales).[9] No other water users are subject to these requirements.

The MCA is not aware of any state/territory jurisdiction recognising this new national approval process for water use by eliminating the duplication with their jurisdiction's existing and evolving regulatory framework. For example in Queensland since December 2016, the minerals sector has been required to apply for a new associated water licence.[10]

The former National Water Commission recognised this issue, concluding in its 2014 report on extractive industries there was a need for 'linking water planning more effectively with project approvals at the state and Commonwealth levels'.[11] This is an important efficiency/productivity measure. Furthermore, the overlap of state and federal requirements (e.g. the above 'water trigger') should be fully rationalised.

The incorporation of new information into water resource plans

Mining operations undertake detailed water resource investigations as part of project pre-feasibility studies and in meeting regulatory requirements. These investigations add considerably to our understanding of regional water resources and in particular groundwater. This new information may lead to the identification of deeper or larger water resources than that considered when determining regional or resource unit extraction limits.

Cases have emerged where a mining company has 'proven up' a new (e.g. deeper) groundwater resource, but access has been restricted as it was not considered in the existing water resource management plan for the area in which the mine was proposed. The water market in some regional areas can also be 'thin' (very few sellers) poorly serviced with infrastructure (preventing water trading or leasing) and dysfunctional which can create a significant barrier to market-based industry water access.

The MCA considers that greater flexibility is needed to enable adjustments to water extraction limits as new knowledge of a water resource emerges. Furthermore, there should be some regard to water resources not currently recognised in water resource plans (e.g. deeper groundwater or water produced through treatment of waste water). For efficiency purposes, the MCA proposes that these resources be managed in line with the objects of the NWI until they can be incorporated into appropriate water planning arrangements. This will be particularly important for groundwater resource areas, for which knowledge is continually evolving.

Access to low quality water resources

Much of the water used by the minerals industry is not fit for purposes other than for industrial applications, with the water utilised ranging in quality from simply non-potable through to hyper-saline groundwater.

Access to differing or poor quality water is not well managed under existing jurisdictional regimes and poor quality water supplies are often excluded from water resource plans (e.g. including the development of Murray Darling Basin 'sustainable diversion limits'). In other cases, poor quality water in one part of a water planning region is given the same value as high quality water, effectively forcing mining operations to pay premium prices to extract water that has no other beneficial use. These situations create a barrier for new operations to access poor quality water resources which could be beneficially used and create significant economic returns. The use of lower quality water by the minerals industry effectively offsets water use from higher quality sources, leaving it available for those users requiring higher quality water.

[9] For coal seam gas and large coal developments only.
[10] Business Queensland, *Associated Water Licences*, Queensland Government, viewed 10 September 2020.
[11] National Water Commission, *Water for mining and unconventional gas under the National Water Initiative*, NWC, 2014, p. 6.

The MCA considers that water resource plans and associated extraction limits for a given groundwater unit should be sufficiently flexible to allow for industry access to these water resources where it can be demonstrated that extraction does not significantly impact on other users or the environment. While water resource plans do not explicitly restrict the inclusion of poorer quality water, these sources are yet to be sufficiently recognised in existing planning processes.

The use of poorer quality water should also be encouraged by tailored pricing that reflects its lower value and therefore utility to water users (where appropriate and where it does not render the market inefficient).