

Mining and Petroleum Gateway Panel
C/- David Koppers
Independent Planning Commission
Level 3, 201 Elizabeth Street
SYDNEY NSW 2000

Dear Mr Koppers

Advice to the Mining and Petroleum Gateway Panel on the Narrabri Underground Mine Stage 3 Extension Project

I refer to your email of 15 February 2019 to the Hon Niall Blair concerning the Gateway Application for the Narrabri Underground Mine Stage 3 Extension Project.

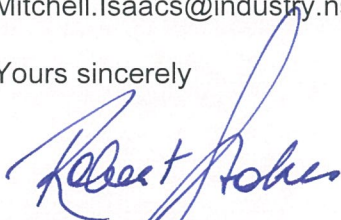
I have considered the application and the Independent Expert Scientific Committee's (IESC) advice, and key issues are listed below in relation to impacts on water resources. Further detail is provided in the Department of Industry – Lands and Water's technical assessment.

- The predicted drawdown in the vicinity of the proposed mine footprint, particularly with respect to potential impacts to other users.
- The risk of potential connective fracturing to the surface.
- Further work is required in undertaking a detailed assessment against the minimal impact considerations of the NSW Aquifer Interference Policy.
- Drawdown and water pressure changes are predicted at two private bores, and make good provisions will be required.
- Water access licences with sufficient entitlement will be required in the water sources where additional water take is predicted.
- The potential for cumulative impact to water resources in relation to other nearby projects should be assessed.

I recommend that the proponent be required to undertake detailed studies and modelling, addressing the matters raised in this advice and the IESC's advice, prior to submission of the environmental impact statement.

I have asked that Mr Mitchell Isaacs, Director Strategic Relations, be available to discuss this matter further with you. Mr Isaacs may be contacted on 0403 103 823 or by email at Mitchell.Isaacs@industry.nsw.gov.au.

Yours sincerely



Rob Stokes MP
Minister for Planning and Public Spaces

26th April, 2019.
Encl.

Attachment

Technical assessment by the Department of Industry – Lands and Water

Advice on the Gateway Certificate application for the Narrabri Underground Mine Stage 3 Extension Project

Purpose

To review the application for a Gateway Certificate for the Narrabri Underground Mine Stage 3 Extension Project. This advice considers the submission by the IESC.

Background to the Project

The Narrabri Mine is an existing underground coal mining operation situated in the Gunnedah Coalfield. The mine is located approximately 25 kilometres (km) south-east of Narrabri within the Narrabri Shire Council Local Government Area (LGA), in the New England North West region of New South Wales (NSW).

Narrabri Coal Operations Pty Ltd (NCOPL), on behalf of the Narrabri Mine Joint Venture, is seeking a Gateway Certificate for an underground extension to the south of the existing Narrabri Mine (the Narrabri Underground Mine Stage 3 Extension Project, the Project). The Mining and Petroleum Gateway Panel will assess the Gateway Certificate Application.

Two documents have been examined in detail for this review:

- Narrabri Underground Mine Stage 3 Extension Project Application for Gateway Certificate – Technical Overview
- Narrabri Underground Mine Stage 3 Extension Project Application for Gateway Certificate – Appendix D: Preliminary Groundwater Assessment

Review and Comment

IESC Review

The Independent Expert Scientific Committee (IESC) has provided a detailed submission on the Narrabri Underground Mine Stage 3 Extension Project. The key potential impacts outlined in the review are:

- Groundwater drawdown that will potentially reduce availability of water for groundwater dependent ecosystems (GDEs), such as springs, the Upper Namoi Alluvium and other water resources;
- Surface water losses and altered stream-flow regimes (e.g. Kurrajong Creek) through surface fracturing, cracking and ponding along drainage lines above the proposed longwalls; and
- Cumulative impacts created by the multiple competing demands for water in an already heavily used system.

The IESC has identified areas in which additional work is required to assess the materiality of impacts. DoI Water has no concern with the recommendations made by the IESC. Both DoI Water and the IESC advice indicates the need for further detailed modelling and studies to be conducted in the development of the environmental impact statement.

Groundwater head pressure drawdown

- The groundwater impact assessment predicts significant loss of groundwater head pressure within the deeper porous rock groundwater sources (including the Gunnedah-Oxley Basin MDB Groundwater Source, and in the Southern Recharge Groundwater Source).
- The application notes “*the area of greatest impact closely coincides with the mined area (about 260 m drawdown above the southern longwalls and 250 m drawdown above the northern longwalls). Greater than 30 m drawdown is predicted away from the mine in all directions, more significantly to the west*”, and later that “*detail of this significant drawdown and potential impact to nearby state forest and other groundwater users is needed for clarification purposes. This should be fully detailed in the post Gateway Process EIS.*” We support this statement and emphasise the need for clarification in the EIS.

Groundwater monitoring

- The proponent notes that pumping effects from private bores are observed in the monitoring data. However there are no production bores in the vicinity of the mine site within these groundwater sources. It is doubtful that basic landholder right bores at distance from monitoring bores will impact on the mine’s monitoring network unless extraction from any basic landholder right bore is significant and taking from the same aquifer as the monitoring bores. The proponent should address this when developing its EIS.

Subsidence

- The application shows that there is no predicted connection between subsidence induced upward progressing fracturing and any downward induced surface fracturing. However, modelling has indicated that the distance between these mining induced fracturing sets could be as low as 17 metres. This may increase the risk of fracturing to surface which needs to be confirmed in the EIS.
- Small occurrences of Biophysical Strategic Agricultural Land (BSAL) are mapped and indicated above the eastern longwall panel of the proposed extension where significant fracturing and groundwater head depressurisation are predicted.
- The assessment indicates that no alluvial water tables will be impacted by the proposed development.

Aquifer Interference Policy

- Significant loss of groundwater head pressure due to the project is predicted to impact on two private groundwater works. These works are not located in the high value Namoi alluvial aquifers, and do not have water access licences. These bores are basic rights bores. In accordance with the Aquifer Interference Policy, make good provisions are required for all bores where a cumulative pressure head decline of more than 2m decline occurs. The proponent should ensure they consult with the affected bore owners as early as possible.
- The potential for cumulative impact to water resources in relation to other nearby projects, including the proposed Narrabri Gas Project needs to be understood. This has not been assessed in the gateway application and will need to be addressed in detail at the EIS stage.
- The proponent predicts that the project will result in maximum additional groundwater take of 0.38ML/d from the Upper Namoi Zone 5 Namoi Valley Groundwater source, 0.85ML/d from the Southern Recharge Groundwater Source and 0.5ML/d from the Lower Namoi Regulated River Water Source. The proponent will need to acquire

additional water entitlement from the relevant water source to account for the estimated take from each source.

- The proponent has applied incorrect minimal impact considerations criteria for the Southern Recharge Groundwater Source for 'Water Pressure'. Although the assessment would likely still come out as Level 2 the project must be assessed in accordance with the correct assessment criteria.
- The proponent should clarify the minimal impact criteria applying to the Southern Recharge Groundwater Source for 'Water Table'. The Pilliga Sandstone is unconfined in the project area, therefore the "Water Table" criteria applies. This is not clearly stated in the groundwater assessment report.
- The deeper formations that make up the Southern Recharge Groundwater Source, including the Purlawaugh Formation and Garrawilla Volcanics could be confined or semi-confined and therefore be considered under the 'Water Pressure' criteria if it can be justified and made clear in the assessment. The proponent needs to clearly state the conceptualisation and ensure this is reflected in the modelling and the impact assessment, or otherwise clearly justified.
- The groundwater assessment document identifies Level 1 impact to water supply works from the 'water table' assessment of the Southern Recharge Groundwater Source however the report also states that the post mine closure impact will result in the water table decreasing by 4 metres. This potentially constitutes a Level 2 impact and should be addressed as such.
- The 'water pressure' assessment predicts a greater than 2 metre impact at neighbouring water supply works, correctly identified as a level 2 impact, requiring 'make good' measures.
- The proponent has predicted that there will not be any water quality impacts to the alluvial aquifers or the highly connected surface water, and this is likely to be acceptable in relation to water quality under the Aquifer Interference Policy.

Recommendations

- The proponent should confirm in the EIS detail on the significant drawdown in the vicinity of the proposed mine footprint including the potential impact to the nearby state forest and other users including BSAL and private bores as identified in the groundwater assessment document.
- The assessment shows that the drawdown will impact on two private groundwater works. These works are not located in the high value Namoi alluvial aquifers, and do not have water access licences. In accordance with the Aquifer Interference Policy, make good provisions are required for all bores where a cumulative pressure head decline of more than 2m decline occurs. The proponent should ensure they consult with the affected bore owners as early as possible.
- The proponent should confirm in the EIS the risk of potential connective fracturing to surface with reference to the predicted distance between mining induced fracturing.
- The proponent should clarify in the EIS the impact assessment against the Aquifer Interference Policy relating to the Southern Recharge Groundwater Source. This should include:
 - Ensuring the correct minimal impact considerations have been quoted and applied in the assessment – specifically the 'Water Pressure' criteria for the Southern Recharge Groundwater source.

- Clearly identifying and justifying which formations the 'Water Table' and 'Water Pressure' criteria apply to, noting the Pilliga Sandstone is considered unconfined in this area.
- Addressing the prediction of a 4 metre decline in the water table post mine closure in the Pilliga Sandstone as part of the minimal impact consideration which should include applying the Level 2 criteria.
- The proponent should commit to updating the Water Management Plan to include mitigating and/or remediation actions to cover any predicted impacts and contingency planning to address impacts greater than predicted.
- The proponent should qualify with evidence the statement that pumping effects from private bores are observed in the monitoring data – specifically relating to the Southern Recharge and Gunnedah – Oxley Basin MDB Groundwater Sources. The proponent needs to investigate and report on this in the EIS.
- The proponent predicts that the project will result in maximum additional groundwater take of 0.38ML/d from the Upper Namoi Zone 5 Namoi Valley Groundwater source, 0.85ML/d from the Southern Recharge Groundwater Source and 0.5ML/d from the Lower Namoi Regulated River Water Source. The proponent will need to acquire additional water entitlement from the relevant water source to account for the estimated take from each source.
- The potential for cumulative impact to water resources in relation to other nearby projects, including the proposed Narrabri Gas Project. This was not considered in the gateway application and will need to be addressed in detail at the EIS stage.

END