



The Hon Katrina Hodgkinson MP

Minister for Primary Industries
Minister for Small Business

BN14/1427

Mr Terry Short
Chair
NSW Mining and Petroleum Gateway Panel
GPO Box 39
SYDNEY NSW 2001

Dear Mr Short

I refer to the Gateway Application for the Bylong Coal Project near Mudgee.

In accordance with Clause 17G of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* I provide the Mining and Petroleum Gateway Panel with advice regarding the impact of this proposal on water resources, as an attachment to this letter.

This advice has been prepared by the NSW Office of Water, and has regard to:

- (a) the minimal impact considerations set out in the Aquifer Interference Policy,
- (b) the other provisions of the Aquifer Interference Policy, and
- (c) the advice provided by the Commonwealth's Independent Expert Scientific Committee on 14 March 2014.

I have asked that Mr Mitchell Isaacs, Manager Strategic Stakeholder Liaison in the NSW Office of Water be available to discuss this matter further with you. Mr Isaacs may be contacted on 02 8838 7529 or by email Mitchell.Isaacs@water.nsw.gov.au.

Yours sincerely

Katrina Hodgkinson MP
Minister for Primary Industries

26.3.14

Cc Hon Brad Hazzard MP, Minister for Planning and Infrastructure

Encl.

Advice prepared by the NSW Office of Water for the Minister for Primary Industries

Bylong Coal Project – Application for Gateway Certificate

1. Purpose

To provide a review of the Bylong Coal Project “Preliminary Groundwater Assessment” against the elements of the NSW Aquifer Interference Policy and any limitations in the data that supports the assessment.

2. Background to the Project

The Bylong Coal Project (herein the Project) is located in the Western Coalfields of NSW. The closest regional town centre is Mudgee, located approximately 55 km south west of the Project. The small settlement of Bylong Village is within the central portion of the Project Boundary. The Project includes open cut mining areas (Eastern and Western Mining Areas) and an underground operation that utilises longwall mining methods. Open cut mining will be complete by Year 10 of the Project. Underground mining will commence around Year 7 of the Project. The underground mine will have a life of approximately 23 years, with a total Project life of 29 years.

A number of operational and proposed coal mines exist in the Western Coalfields which target the same coal seams as the Project. Active mines in the region are Moolarben, Ulan and Wilpinjong mines. These mines are located west of the Project and despatch coal via Muswellbrook to the Port of Newcastle.

3. Review and Comment

An assessment of the activity against the Aquifer Interference Policy has been undertaken. Level 2 impacts (greater than 2 m water table decline) have been identified for 24 water supply works. However, all affected properties will be purchased by the proponent. No other major groundwater related impacts have been identified. The mine plan has been designed to remain outside of the 150 m boundary from the edge of the neighbouring alluvium to ensure that impacts to the alluvial system are minimised as far as possible. Underground mining will fracture overlying strata, but according to the proponent this will not result in any direct connection to the alluvial aquifer. However, there are three issues noted that warrant further consideration, being (i) contingency water supply; (ii) emplacement of mine spoil on colluvial material; and (iii) potential loss of access to Office of Water infrastructure.

(i) Contingency Water Supply

Whilst the proponent has acquired a large number of shares for the take of groundwater from the alluvial aquifer, there may be real constraints on the availability of water. As demand within the licensed entitlement available in the water source increases, or under dry conditions, access to the full entitlement each year may not be possible. Given the proponent's water balance has a heavy reliance on the alluvial groundwater there is a substantial economic risk to the activity that there may not be sufficient access to alluvial groundwater to meet the indicated mine water requirements. The proponent should identify contingency options for this instance.

(ii) Emplacement of mine spoil on colluvial material

The groundwater model as set up shows the colluvium as having the same hydraulic conductivity as the deeper alluvial gravels. The alluvial groundwater is a highly productive groundwater source. There is concern that given the colluvium is in contact and transitions into the alluvium, leachate from the mine spoil has the potential to impact on the groundwater quality of a highly productive groundwater source. The proponent outlines that after equilibrium is reached post mining, there is a predicted increase in discharge from the Permian to the alluvium.

Currently there is no data available for the likely geochemistry of the mine spoil. KEPCO Australia Pty Ltd does make an assumption on likely leachate based on work completed for the Moolarben Coal Mine located some distance from this Project. The inference made is that the leachate will be low salt concentration and thus minimal risks of significantly impacting on aquifer or stream water quality. Future geochemical studies are proposed that will include static and kinetic leaching of ground spoil and tailings samples to determine the concentrations of salts and trace elements likely to emanate from these areas. The potential physical properties of the spoils and tailings, including porosity and hydraulic conductivity will also be further investigated to provide input to the groundwater model.

The proposed future work will inform the risk. However, it is noted that along the northern area of the Western Open Cut where the emplacement on colluvium is proposed, there is only one alluvial monitoring bore which is located on the opposite side of Lee Creek. It would be recommended that additional monitoring be established in this locality but to the west of Lee Creek so as to monitor long term potential changes in alluvial water quality. Mitigation work should be a requirement if a rising trend in salinity was identified in this locality.

(iii) Potential loss of access to Office of Water infrastructure

It is noted that KEPCO as part of this Project, has or will have acquired land that contains five of the seven NSW Office of Water monitoring bores located within the Bylong Catchment. To meet the objectives established under the *Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources 2009* (the WSP); these monitoring bores were established for the purpose of developing potential water level management triggers and understanding resource condition. If independent access to all five sites is lost due to access constraints with entering a working mine site, the ability to manage extraction and monitor the effectiveness of the WSP within the Bylong Water Source is compromised. There would also be a loss in the capital investment made by the Office of Water. KEPCO should make provision for the Office of Water to be able to have continued access to this infrastructure.

5. Advice from the Independent Expert Scientific Committee (IESC)

Advice from the IESC to NSW Mining and Petroleum Gateway Panel was made on 14 March 2014. The NSW Office of Water has considered this advice in preparing its response, and concurs with their findings.

6. Recommendations

- (i) The proponent should identify contingency options given sufficient access to alluvial groundwater may not be available to meet the indicated mine water requirements.

- (ii) Additional bore monitoring sites be established along the Western Open Cut where mine spoil is proposed to be placed on colluvial material. Mitigation work should be a requirement if a rising trend in salinity is identified in this locality.
- (iii) KEPCO make provision for continued access to Office of Water infrastructure located on KEPCO land.