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Mr Clay Preshaw
Executive Director, Resource Assessments
The NSW Department of Planning and Environment

Submitted Online via the Major Projects Portal

Dear Mr Preshaw

SUBMISSION ON HUME COAL EIS

I am a qualified civil engineer and a Fellow Member of the Institute of Public Works Engineers Australia. I have 40 years experience in the planning, design, construction, operation and maintenance of a wide variety of water supply, wastewater and solid waste infrastructure in Regional NSW whilst working for the Public Works Department, Midwestern Regional Council, Sydney Catchment Authority (SCA)& Water NSW. I was the SCA / WaterNSW Manager Water Operations for the Southern Metropolitan Region from 2006 – 2015.

I have a number of significant concerns about the proposed Hume Coal Project described in the Hume Coal Project's EIS Document (March 2017) which has been on public exhibition from April-June 2017.

The following comments are provided for your consideration in assessing the potential economic, social and environmental impacts of this project in determining whether it should be approved.

1. Surface water management system (Volume 4A, p.31, Figure 2.8) and concerns about the system capacity and operation during high intensity rain events. It is designed to capture the first flush (ie up to 20mm) with post first flush flows diverted to local creeks if monitoring confirms it is of a suitable quality. The logistics of obtaining representative water samples from post first flush flows during an intense rain event (ie likely to be during the middle of the night) will be difficult and testing for pH & TDS does not provide any information on the levels of dissolved heavy metals/ arsenic/ hydrocarbons etc.Post first flush water could also be highly coloured which may have significant adverse implications for water quality in the Medway Dam and the Wingecarribee River downstream of the mine site. This issue could lead to similar problems to those being experienced with the management of discharges from Centennial Coal's Springvale Mine near Lithgowto the Cox's River and Lake Burragorang (Warragamba Dam).

   In addition, Mine Water Dam 8 (MWD08) and the Water Treatment Plant (WTP) are only provisional infrastructure for construction in the "unlikely event that excess water stored in the Primary Water Dam (PWD) may need to be treated and released to the Oldbury Creek". Details of the potential dam capacity and water treatment plant requirements would only be considered during the project design stage. The design of a suitable WTP could be very complex (ie criteria for determination of capacity and treatment processes for removal of what pollutants ?). Who would approve the design and regulate the ongoing operation and monitoring of these facilities ?In addition,the capacity of the PWD may be inadequate if the volume of groundwater intrusion to the mine is significantly higher than projected.

2. Groundwater Impacts:

   The project will have a SIGNIFICANT IMPACT on 93 existing landholder bores on 71 properties located in the vicinity of the proposed mine (Volume 4A, p.208, Section 11.4 & Table 11.3) with a recovery time of up to 72 years,

The groundwater modelling may have significant deficiencies and inaccuracies. The regulatory agency (DPI Water) does not meter groundwater usage for registered bores in the area and the actual usage relative to licenced entitlements is unknown (Vol.4A, p.124, S6.10.1). Hence, if the model is utilising water level data from recent (relatively wet) years when the actual usage may be considerably lower than the licenced entitlement; and minimal bore testing data; the modelling may not reflect the likely impacts during a prolonged drought period.

In addition, given that most of the bores draw their water from the Hawkesbury sandstone layer; the zone of influence and potential impact may extend well beyond the area assumed in the EIS. In the event that landholder bores located adjacent to the nominated area experience significant issues with their bores due to the proposed mine; what is the mechanism or procedure for addressing and resolving potential disputes ? Will the landholder have to lodge a complaint with DPI Water and prove beyond reasonable doubt (records ??) that the issue is related to the operation of the mine – cost and time of resolving these issues and who pays ?

The proposed mine's significant impact on the groundwater in this area may also adverse implications for the sustainable yield from the Kangaloon Borefield which is a potential water source for the future augmentation of Sydney and Wingecarribee's town water supplies.

3. Water licences – The information provided in Vol.4a, S12, p.215 of the EIS on Hume Coal's current and proposed water licences refer to licence allocations and not actual sustainable yields over a prolonged period of operation; including during droughts. There is no reference to any operational conditions/ requirements applicable to these water licence entitlements in the event of a drought.

4. The proposed reject (and leachate ?) emplacement in the mine voids and the potential contamination of the groundwater is a significant concern.

The mean concentration of dissolved metals (including arsenic, cadmium, chromium & cobalt) in the leachate is significantly higher than the baseline concentrations in Oldbury Creek. The proposed treatment of the leachate with lime for pH correction may not be a reliable & effective method for treating and immobilising dissolved contaminants to prevent them from migrating to the groundwater in the areas adjacent to the mine. The PFAS pollution of the groundwater in the vicinity of Williamstown Airport near Newcastle is a timely reminder of the potential groundwater contamination issues that can arise due to such activities.

5. Potential jobs – The reference to the potential creation of 316 new/ additional operational coal mining jobs in the region is considered optimistic. A number of the local coal mines (Tahmoor/ Appin/ Metropolitan) are on the verge of being uneconomic to operate and likely to close in the near future. The employment of displaced workers from these mines by Hume Coal may not result in a nett increase in jobs in the coal mining industry in this region. The potential loss of jobs in the local agriculture and tourism sectors due to the environmental impacts of the Hume Coal Project should also be taken into consideration. In addition, the increasing application of new technology in the mining industry (eg driverless trucks in WA mines) may result in further reductions in the size of the proposed operational workforce at the Hume Coal Mine.

6. The coal mining industry appears to be in decline as the increasing use of gas and renewable energy sources and technological advances in energy storage systems is likely to have a significant impact on the long term viability of the proposed mine. In the event that the proposed mine becomes uneconomic and redundant during say the next 3-5 years; the local community is potentially left to deal with significant and potentially irreparable damage to the local environment.

Yours faithfully

Carl MJ Peterson