NSW GOVERNMENT | Department of Primary Industries

OUT12/30293

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Mr Steve O'Donoghue
Mining and Industry Projects
NSW Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Steve.O'Donoghue@planning.nsw.gov.au

Dear Mr O'Donoghue

Cobbora Coal Project (MP10_0001)
Response to exhibition of Environmental Assessment

I refer to your email of 2 October 2012 requesting advice from the Department of Primary Industries (DPI) in respect to the above matter.

Comment by NSW Office of Water

- The NSW Office of Water recommends further assessment of critical issues and clarification of some matters. Detailed comments in this regard are provided in Attachment A. The key points include:
  - (i) a review of the groundwater assessment to determine and ensure consistency with the Aquifer Interference Policy. The NSW Office of Water has identified additional assessment is required with regards to groundwater quality and pressure impacts.
  - (ii) a comprehensive sensitivity analysis for the final void water level based on the groundwater and surface water modelling. It is recommended the environmental impacts of a worst case scenario final void level be assessed.
  - (iii) the need to provide further details on final void geometry, detailed groundwater contours around the void post mining and post closure impacts
  - (iv) there is risk to groundwater and surface water quality as a result of the proposal to not line the tailings facilities, but rather to utilise conventional slurry techniques
  - (v) the need for further clarification of the proposed operation of the Woolandra Dams, to consider interaction within the site water balance and to comprehensively assess the downstream impacts and/or intended environmental outcomes
  - (vi) there is a need for further detailed assessment of salt load impacts to the surface water system both during and post mining life

(vii) significant flooding impacts around structures and embankments are predicted in the Environmental Assessment. Further assessment is needed to clarify the extent of these impacts to adjacent landholders and the watercourses and to develop mitigating options to minimise impacts.

- Additional correspondence received by Parsons Brinckerhoff dated 25 October 2012 was reviewed in compiling this response. This additional information has indicated a proposal to prepare supplementary groundwater, surface water and acid mine drainage reports to address issues not covered in the exhibited documentation. The NSW Office of Water therefore requests these additional reports be provided, in addition to other matters in this response, being addressed before preparation of recommended approval conditions.
- It is advised that the proponent is informed with regard to licence requirements for water take and there is sufficient market depth to obtain the necessary licences.

For further information please contact Tim Baker, Planning and Assessment Coordinator (Dubbo office) on 6841 7403 or at: Tim.Baker@water.nsw.gov.au.

Comment by Fisheries NSW

- Fisheries NSW notes that the design and the layout of the proposed mining areas have been refined to avoid the diversion of Sandy and Laheys Creeks as originally proposed.
- However, the project still has the potential to have significant detrimental impacts on the ecology of surrounding aquatic environments (particularly the endangered Murray-Darling population of Eel-tailed Catfish) as a result of altered groundwater and surface water hydrology.
- Should the application be approved, Fisheries NSW, in terms of its responsibilities under the provisions of Part 7 and Part 7A of the *Fisheries Management Act 1994* and relevant policies and guidelines applicable to the implementation of the objectives of this Act, recommends the conditions as detailed in Attachment B.

For further information please contact David Ward, Fisheries Conservation Manager-Greater Darling (Tamworth office) on 6763 1255 or at: david.ward@dpi.nsw.gov.au.

Comment by Crown Lands

- There are a number of Crown (and Council) roads located within the *mining area*. The proponent will need to make applications to close and purchase these roads prior to any mining works commencing. Contact should be made with the Catchments & Lands Division (Crown Lands) for further details and to determine appropriate actions.
- There are a number of areas of Crown land as well as a large number of Crown (and Council) roads within the *Project Application Area* (but located outside the *mining area*). The proponent will need to contact the Catchments & Lands Division (Crown Lands) in respect to obtaining the necessary approvals to occupy Crown land and/or to determine appropriate actions to enable the use of any Crown roads for ingress and egress from the mining area.
- Crown Lands is satisfied that the mitigation measures as described in the Environmental Assessment will be appropriate to reduce environmental impacts to an acceptable level and that any shortfalls will be identified during on-going monitoring processes.

For further information please contact Elizabeth Burke, Acting Group Leader (Dubbo office) on 6883 5410 or at: elizabeth.burke@lands.nsw.gov.au.

Comment by Office of Agricultural Sustainability & Food Security
It is advised that in accordance with arrangements in respect to mining proposals that affect agricultural land, the Office of Agricultural Sustainability & Food Security will respond by separate letter to your Department.

For further information please contact Mary Kovac, Resource Management Officer (Dubbo office) on 6881 1250 or at Mary.Kovac@dpi.nsw.gov.au.

Yours sincerely

Phil Anquetil
Executive Director Business Services

Attachment A

Cobbora Coal Project (MP10_0001)
Response to exhibition of Environmental Assessment (EA)
Additional comment by NSW Office of Water

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1. VOID DESIGN

- Details of void geometry in Mining Area B are requested to assist in interpreting the groundwater and surface water assessment impacts both during mine life and post closure.
- An assessment is requested of any evaporation from the void lake both during filling and at equilibrium and a quantification of water inputs and outputs to the lake.

2. GROUNDWATER ASSESSMENT

2.1 Groundwater Modelling

- The groundwater model is considered to be adequately constructed and representative of the hydrogeological environment. However the post mining landform modelled by the numerical model was for a previous mine closure plan. It is recommended the numerical model be re-run using the final landform design for the project and include a sensitivity analysis of the final water level in the void. The sensitivity analysis presented in the EA showed significant variation in pit inflow rates with small variations in aquifer parameters. Additional sensitivity analysis is therefore critical to improve certainty of potential impacts and it is recommended that a worst case pit inflow scenario be included. Clarification of the certainty of the void acting as a local sink is of key concern.
- Results of numerical modelling in the EA predict the maximum annual pit inflow during mine operations to be 1775ML in 2031. 280ML of this volume is modelled as the combined maximum induced leakage and reduction in baseflow from the Talbragar River. The related groundwater impacts include:
    - water table drawdown to be at a maximum near the end of mining with drawdown of more than 1m extending 5km south and 4km west.
    - depressurisation of the Ulan coal seam extends further than the water table impacts with the 1m depressurisation contour extending 5km west of the project.
    - 20yrs after mining a residual drawdown will remain within 2km of the mining area B void lake. A new equilibrium is to occur 50yrs after mining ceases with some localised drawdown near the void, however the drawdown level is not clearly defined.
- The EA has utilised a threshold of 2.5m drawdown at water supply works which identified 6 works to be affected. As the AI policy sets criteria of 2m decline for both water table and pressure at any supply work, the proponent is requested to clarify if additional bores may need to be considered for mitigation options.

2.2 Tailings Management

- It is recognised the tailings facilities are not to be lined with any natural or artificial barrier and the proposed method of tailings production will lead to a moisture content which may result in seepage into underlying groundwater. The tailings leachate assessment has highlighted potential exceedances in water quality parameter trigger values however there is inadequate assessment of the associated impacts.
- Post closure seepage from the tailings distant from the final void is not likely to be constrained by the local groundwater sink. However the final groundwater contours are not presented at a scale that this can be determined. The Office of Water is concerned with the potential degradation of groundwater and surface water quality and requests further assessment of the impacts and development of mitigating options as required. Detailed groundwater elevation contours in the vicinity of the void lake post mining are requested.

2.3 Groundwater Quality

- The beneficial use category of the local groundwater systems is presented, but impacts due to the mine are not assessed against a potential change in the identified beneficial use category. The Office of Water requests the potential for changes to beneficial use categories to the different aquifers and connected river systems be assessed and discussed in greater detail. Seepage from the tailings dams and the waste rock emplacements in addition to potential modifications to recharge and function of the void need to be addressed.
- The establishment of a comprehensive groundwater monitoring network is critical to the ongoing review of predicted impacts and to inform contingency planning if required.

2.4 Groundwater Dependent Ecosystems (GDE)

- The closest high priority GDE as listed in the Water Sharing Plan for the Murray Darling Basin Groundwater Sources is Narran Springs located 1.5km west of the 1m modelled drawdown contour. It is therefore not considered to be at potential risk however it is recommended the monitoring program review these predictions.
- Springs and seeps identified in the area are mapped in the EA but are considered to reflect local perched aquifer systems independent of the regional aquifer system. Drawdown and pressure related impacts due to the project are not expected to impact these features.
- The EA recognises groundwater contributions to semi-permanent pools within Laheys Ck and Sandy Ck will be reduced by the drawdown impacts of the project. These impacts are predicted to be minimised through additional low flow events during and post mining and flood recharge of adjacent alluvium. The Office of Water considers significant uncertainty exists in these predictions and therefore comprehensive monitoring and contingency planning is recommended.

3. SURFACE WATER ASSESSMENT

3.1 Water Storages

- The additional information indicated a proposal to source construction water from one or more dams on the proponents land. Further information is requested on the volume required, water sources and relevant licences under water legislation.
- The NSW Office of Water is aware of a proposal to modify the Woolandra Dams to enable the continued passage of runoff down Blackheath Ck and into Laheys Ck. Clarification is requested on this proposal and further detail be provided on the objectives and expected environmental outcomes if it is to be implemented. If this proposal is to mitigate impacts to the downstream aquatic environment and/or to water users, these impacts and the ability to mitigate them need to be clearly defined.
- Clarification is requested on how the Woolandra Dams were considered in the surface water modelling, both during mining and post closure.
- The proposed raw water dam is to be located on a second order watercourse with the ability to capture surface runoff from the upstream catchment both during and post mining. This dam therefore needs to be considered in regards to Maximum Harvestable Rights Dam Capacity (MHRDC). MHRDC will also need to be considered for all proposed clean water dams.

3.2 Runoff and Water Quality

- The capping layer of the final landform and the impacts on surface water runoff and infiltration is uncertain. This information is critical for considering long term water impacts to surface water and groundwater systems. Clarification is therefore requested on these details and any changes to runoff and infiltration related impacts.
- The potential for increased water volumes of higher Total Dissolved Solids (TDS) and the resultant increased salt load to the Talbragar River is of significant concern. Additional assessment is requested to clarify the salt load contributions pre, during and post mining, and the related aquatic impacts.

- The establishment of a comprehensive surface water monitoring network is critical to the ongoing review of predicted impacts and to inform contingency planning if required.

3.3 Flooding Impacts

- The EA presents a map of the existing flood extent for a 100yr ARI event. However due to the scale of the map it is difficult to interpret. Further, no map was provided of the impacts to the flood extent or the area impacted by afflux. It is therefore recommended that further mapping be included to clearly represent the impacts in terms of flood extent and afflux. This is a key issue for consideration in the licence requirements under the *Water Act 1912* for embankment construction at the site. Other sites of key interest include the key watercourse crossings for haul roads, road diversions and rail crossings.
- The EA recognises an overall minor impact to flooding behaviour, apart from localised increases in flow velocity and afflux impacts associated with structures. Clarification of the spatial extent of impacts as referred to in the previous point is critical to understand potential impacts on land not owned by the proponent. The Office of Water also recommends structures proposed within 40m of watercourses to be designed in accordance with the *Guidelines for Controlled Activities on Waterfront Land* (July 2012). These guidelines aim to minimise flooding impacts due to works on waterfront land and maintain natural hydrological processes. Adequate mitigating options to ensure channel and floodplain stability will also be required.

4. MONITORING AND MITIGATION

- The Office of Water supports the proposal to develop management plans for both construction and operational periods of the development. Key areas of interest for the Office of Water include:
  - Erosion and Sediment Control
  - Surface Water Management
  - Groundwater Management
  - Surface water and groundwater monitoring and reporting
  - Contingency and Response Planning
  - Ongoing Review of Modelling Predictions

5. WATER LICENSING

- Additional monitoring bores will require licensing under the *Water Act 1912* and/or *Water Management Act 2000* (whichever is relevant) prior to installation.
- It is recognised the proponent has the ability to account for the predicted 280ML impact from the Talbragar River by transferring entitlement from the existing licence at the Woolandra Dams. This process will require further consultation with the Office of Water and modifications to dam capacity.
- Any proposed modifications to the Woolandra Dams will require consultation with the Office of Water and potential amendments to existing licenses under the *Water Management Act 2000*.
- Confirmation is required on the application of the Maximum Harvestable Rights Dam Capacity (MHRDC) for the proponents land and the proposed Raw Water Dam and other clean water dams. Dams in excess of MHRDC will need to be considered for licensing under the *Water Management Act 2000*.
- The proponent is advised that despite the site not being located within a gazetted Floodplain Management Plan the requirement for an approval under Part 8 of the *Water Act 1912* may still apply. Levees, embankments and emplacements proposed to impact on flood flows therefore may require licensing under Part 8 of the *Water Act 1912*.

End Attachment A

Attachment B

Cobbora Coal Project (MP10_0001)
Response to exhibition of Environmental Assessment
Recommended conditions of approval, and associated comment - Fisheries NSW

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1. A Management Framework is to be developed that includes an Operational Adaptive Management Strategy (AMS) to monitor and manage impacts on the aquatic ecology of Sandy and Laheys Creeks during the operation of the mine. The development of this strategy should include the establishment of a River Monitoring Committee (including Fisheries NSW, NSW Office of Water and other appropriate agencies). The role of the River Monitoring Committee will be to oversee the preparation, implementation, monitoring and review of the AMS. The AMS is to have particular reference to the endangered Murray-Darling population of Eel-tailed Catfish, listed on the threatened species schedules of the *Fisheries Management Act 1994* and ongoing review of proposed mitigation measures.

2. Fisheries NSW is to be consulted with regard to the design of the pump intakes and pump screen structures at the Cudgegong River to ensure that the entrainment and entrapment of juvenile fish and larvae is minimised. Details of the operation and management of the pump and intake structure should also be provided to Fisheries NSW, including "start up" operations.

3. Detailed Construction Environmental Management Plans (CEMPs) are to be provided to Fisheries NSW for review and comment prior to the construction of the intake structure at the Cudgegong River, and are to outline:
   - details of the dredging footprint,
   - translocation protocols for fish if site dewatering is required,
   - erosion and sedimentation control plans, and
   - potential blockages to fish passage and how they are to be managed.

4. Waterway crossings are to be designed to comply with the Fisheries NSW *Policy and Guidelines for Fish Friendly Waterway Crossings (2003)* and *Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (2003).*

5. Fisheries NSW are to be notified prior to any construction activities occurring within waterways.

End Attachment B

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