



OUT13/33852

4 DEC 2013

Mr Matthew Sprott
Mining Projects
NSW Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Atthew.Sprott@planning.nsw.gov.au

Dear Mr Sprott,

**Drayton South Coal Project (MP11_0062)
Comment on the Response to Submissions Report/Preferred Project Report**

I refer to your email dated 18 October 2013 to the Department of Primary Industries in respect to the above matter.

Comment by NSW Office of Water

The NSW Office of Water has reviewed the Response to Submissions (RTS) document (May 2013) and Preferred Project Report (PPR) (August 2013) submitted in support of the Drayton South Coal Project. It is recognised as the RTS was prepared prior to the PPR the conclusions in the RTS may require further consideration. Key comments are provided below and detailed comments are included in Attachment A. Recommended conditions of approval are provided in Attachment B.

- (i) The response to submissions (RTS) document has clearly identified the water entitlement requirements during both the life of the project and post mine life and made commitments to obtain the necessary entitlements. However the trading rules of the relevant water sharing plan have not been adequately addressed and it is recommended the proponent liaise with the NSW Office of Water to confirm potential limitations prior to determination of the project.
- (ii) The RTS document has adequately addressed key issues in relation to the assessment requirements of the Aquifer Interference Policy (AIP). This included conducting an independent review, assessment against the 2012 Groundwater Modelling Guidelines and assessment against the AIP minimal impact considerations. The assessment has indicated the project would meet the Level 1 impact thresholds of the Aquifer Interference Policy and is therefore acceptable, subject to the following point.
- (iii) The Office of Water considers there is a potential risk of significantly higher TDS concentrations resulting from overburden leachate. Additional modelling

is therefore requested to assess risk resulting from the potential variance in salinity discharge under a range of mine spoil groundwater salinity values.

- (iv) The intention of the proponent in the RTS to consult with NOW during the development of the water management plan is supported. This would include consideration of proposed groundwater trigger levels as part of a trigger action response plan, in addition to detailing modelling reviews and monitoring and reporting requirements. Clear identification of the process to meter/model water take and water use by the project is requested.
- (v) The Preferred Project Report (PPR) has included significant changes to the final landform in terms of catchment function, void function and potential water entitlement requirements. Further detail is requested to clarify the water licence entitlements required from each water source during and post mining.
- (vi) As part of the PPR, significant channel modification is proposed downstream of the areas to be diverted into Saddlers Ck. Uncertainty exists at this stage as to what these works will entail and hence the impacts to the existing and downstream watercourses. It is expected an extensive understanding of geomorphological and hydrological processes will be required to ensure long term stability and rehabilitation is achieved. Consultation with the NSW Office of Water is requested to ensure consistency with relevant guidelines, policy and legislative requirements.
- (vii) The proponent should liaise with the Office of Water to determine the requirement for future licences and approvals under the *Water Act 1912* and the *Water Management Act 2000*.

For further information please contact Tim Baker, Senior Water Regulation Officer (Dubbo Office) on 6841 7403 or at tim.baker@water.nsw.gov.au.

Comment by Crown Lands

The proponent has adequately addressed the concerns of Trade & Investment, Crown Lands in Section 4.25 of the Response to Submissions.

For further information please contact Mark Grace, Natural Resource Management Project Officer (Maitland office) on 4937 9331, or at: mark.grace@lands.nsw.gov.au.

Comment by Office of Agricultural Sustainability and Food Security

In accordance with arrangements for mining proposals that affect agricultural land, the Office of Agricultural Sustainability and Food Security will respond separately to your Department.

For further information please contact Robert Williamson, Leader Regional Services (Orange office) on 6391 3166, or at: robert.williamson@dpi.nsw.gov.au.

Fisheries NSW advise no issues.

Yours sincerely



Tony Heffernan
Acting Executive Director Business Services

Attachment A

Drayton South Coal Project (MP11_0062) Comment on the Response to Submissions Report/Preferred Project Report Additional comments by NSW Office of Water

1. Response to Submissions

- The RTS document has indicated the maximum water entitlement requirements during and after the mine in Table 22. This includes 76 units of aquifer take and 730 units of unregulated river take in the Jerrys Water Source of the Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources. The Office of Water advises the comments in Section 4.13 of the RTS do not adequately address the trading rules of this Plan; hence there is uncertainty on the ability of the proponent to obtain the necessary entitlement. It is therefore recommended the proponent consult with Office of Water to confirm any potential limitations prior to determination of the project. Further to this the review of the PPR in the section below has highlighted the need to clarify the entitlement requirements based on the revised mine layout.
- The predicted water take of 4ML/yr in the Hunter Regulated River Management Zone 1B can be adequately accounted for by the proponent due to 198 units currently held in that water source. As referred to in Section 4.13 the water source related to the coal measures is not currently embargoed and is administered under the *Water Act 1912*. The applicant therefore has the ability to make application to the NSW Office of Water for the necessary entitlement.
- It is requested the proponent confirm where the 4766 ha of land that has been used to calculate harvestable rights is located, that there are no other water storage areas on this land (other than the 20 ML stated) and that it has not been accounted as harvestable rights land for any other purpose (e.g. to offset other licensing requirements). As the water take requiring licensing post mining will be indefinite, the proponent also needs to describe how the land used to calculate harvestable rights will be held as freehold land by the proponent indefinitely and will not be subdivided, as this would affect the harvestable rights of the proponent and therefore the full take of water post mining may not be appropriately licensed. Alternatively the proponent should demonstrate that it is able to secure licences to account for this ongoing take.
- The 314 ML of harvestable rights post mining that has been calculated is the size of the water storage that may be constructed and is not the total volume of water entitled to be taken under harvestable rights. To calculate the volume of water allowed to be taken under harvestable rights, this figure must be divided by the reliability factor of 1.17 ($4766 \text{ ha} \times 0.07 \div 1.17$). This gives a figure of 285 ML which is the volume of water that may be taken as harvestable rights (given an area of 4766 ha). Once 20 ML of existing farm dam capacity is subtracted from this, the final amount that is not required to be licensed is 265 ML. This leaves a remainder of 367 ML (based on the figures provided by the proponent) that needs to be licensed in the Jerrys Water Source. It is requested the entitlement requirements during and post mining be confirmed based on the revised landform in the PPR.
- The RTS has adequately addressed the Office of Water's requests to address the requirements of the Aquifer Interference Policy. This included conducting an independent review of the groundwater assessment, assessment against the 2012 Groundwater Modelling Guidelines and assessment against the AIP minimal impact considerations. The assessment has indicated the project would meet the Level 1 impact thresholds of the Aquifer Interference Policy and is therefore acceptable, subject to a further assessment of risks arising from mine spoil salinity, addressed in the 6th dot point of our comment on the PPR.
- The proponent's commitment to prepare a Water Management Plan in consultation with the NSW Office of Water is supported. Key issues to be addressed include but are not limited to development of a Trigger Action Response Plan, development of metering, monitoring and reporting requirements, and a process for revision of model predictions and impacts.

2. Preferred Project Report

- The PPR has discussed the range of water take from surface water and groundwater during various stages of the revised project however a concise list of the entitlement requirements has not been provided. The Office of Water requests a revised Table 22 in the Response to Submissions document be included within the PPR to address this.
- The Office of Water supports the proponent's commitment in Section 2.1.2 to construct the discharge pipeline in accordance with the Guidelines for Controlled Activities for Outlet Structures. Additional guidelines may also need to be considered including the "Guidelines for Laying Pipes and Cables in Watercourses", "In-stream Works and Watercourse Crossings". These can be accessed at the following link <http://www.water.nsw.gov.au/Water-Licensing/Approvals/Controlled-activities/default.aspx>.
- The proposal to reduce the size of the final void is supported to reduce potential surface water take. It is recognised the reduction in catchment area draining to the final void is from 1140ha to 688ha representing a 40% reduction. This is predicted to result in a decrease in the surface water licensing requirements in the Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources from 730ML as estimated in the RTS to 318ML.
- The water level in the final void is predicted to reach equilibrium 700yrs after mining at a level 20m below the spill height. The assertion that 20m is sufficient freeboard to prevent a spill event to the surface water system is supported. During the initial 160yrs water entering the void via rainfall or groundwater will seep into the surrounding spoil material. After 160yrs water take via evaporation is predicted to commence with a maximum of 3.18ML/d. 1.33ML/d is predicted to move from the spoil into the void to replace the evaporative loss.
- The loss of water from the backfilled overburden into the coal measures is predicted to rise from a maximum of 0.02 ML/day in the original design to 0.54 ML/day in the modified design 450yrs after mining ceases. This significant increase is due to the higher final elevation of the equilibrium water level in the void which has altered the hydraulic gradients. Increased recharge to the surrounding geology includes increases to the Saddlers Ck alluvium and a predicted 0.23ML/d increase to baseflows in Saddlers Ck. It needs to be recognised that a reduction in baseflow to Saddlers Ck is predicted to occur during mining and until 325yrs post mining when the hydraulic gradient is predicted to reverse. The maximum reduction in baseflow is predicted at 0.27ML/d at approximately 100yrs post mining and the reduction of seepage into the Saddlers Ck alluvium reaches a predicted maximum of 0.2ML/d 50yrs after mining.
- The increase in baseflow is not predicted to degrade the water quality of Saddlers Ck as the TDS concentration of water sourced from the overburden is predicted to be less than natural conditions in Saddlers Ck. The low salinity value influenced the modelled water quality balance. Consequently, the Office of Water is of the view that higher salinity concentrations are plausible and thereby requests further modelling work be undertaken to assess the potential variance in salinity discharge under a range of mine spoil groundwater salinity values up to values approximating that of Permian aquifers and thereby better understanding the risks of exceeding the minimal impact consideration with respect to not increasing the long term average salinity by more than 1%.
- It is recognised the changes to the final landform will require significant channel modification works in downstream sections of the natural catchment. These works are to enable the conveyance of water from significantly larger catchments and are likely to require consideration of potential impacts to existing creeks and downstream sections of Saddlers Ck. Uncertainty exists at this stage as to the exact nature of the works and the risks posed to channel stability and riparian function. An impact assessment is therefore recommended. The NSW Office of Water requests consultation during design of these works to ensure consistency with relevant guidelines, policy and legislative requirements.
- The proposal to ensure a setback of 40m from Saddlers Ck is supported. As there is still a proposal to include sediment and erosion control works within this 40m zone the Office of

Water requests consultation during design of these works and consideration of the requirements of the Guidelines for Controlled Activities on Waterfront Land.

End Attachment A

Drayton South Coal Project (MP11_0062)
Comment on the Response to Submissions Report/Preferred Project Report
RECOMMENDED CONDITIONS OF APPROVAL

The NSW Office of Water requests the following conditions be included in any determination issued for the Drayton South Coal Project:

1. The proponent should be required to have adequate water supply authorities to all stages of the mining development, and if necessary, reduce the scale of its activity to match its water supply.
2. The proponent is required to obtain the necessary water licenses for the project under the *Water Act 1912* or *Water Management Act 2000* prior to commencement of activities.
3. The proponent is required to prepare a management plan for the proposed channel modification works. This Plan must be developed in consultation with the Office of Water and address the design, impact assessment, construction and rehabilitation of the works.
4. The Proponent shall prepare and implement a Water Management Plan for the project. This Plan must be developed in consultation with the Office of Water and include:
 - a. details of water use, metering and water management on site,
 - b. details of water licence requirements,
 - c. Surface Water Management Plan, and
 - d. Groundwater Management Plan.
5. The Surface Water Management Plan must include:
 - a. a program to monitor:
 - i. surface water flows and quality,
 - ii. surface water storage and use, and
 - iii. sediment basin operation,
 - b. sediment and erosion control plans,
 - c. surface water impact assessment criteria, including trigger levels for investigating any potentially adverse surface water impacts, and
 - d. a protocol for the investigation and mitigation of identified exceedences of the surface water impact assessment criteria.
6. The Groundwater Management Plan must include:
 - a. baseline data on groundwater levels and quality,
 - b. trigger action response plan,
 - c. a program to monitor groundwater levels and quality,
 - d. a program to report water take via metering and/or modelling,
 - e. groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts,
 - f. a protocol for the investigation and mitigation of identified exceedences of the groundwater impact assessment criteria.
 - g. a protocol for periodic review of groundwater model calibration and verification of groundwater take predictions and groundwater impacts.

End Attachment B