

OUT18/14196

Rose-Anne Hawkeswood
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NSW Department of Planning and Environment

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Dear Ms Hawkeswood

**Vickery Extension (SSD 7480) – Modification
EIS Exhibition**

I refer to your email of 11 September 2018 to the Department of Industry (DoI) in respect to the above matter. Comment has been sought from relevant branches of Lands & Water and Department of Primary Industries. Any further referrals to Department of Industry can be sent by email to landuse.enquiries@dpi.nsw.gov.au.

The department provides the following comments and recommendations for consideration in assessment of the proposal. Comments to support these recommendations are provided in **Attachment A**.

Recommendations prior to project determination

It is recommended that Department of Planning & Environment request the following information to inform determination of the project.

Crown Lands & Water Resources

- Confirmation is required that water entitlements currently held are sufficient to account for existing projects and the proposed project as relevant. Sufficient licensed water entitlements must be held in all relevant groundwater, regulated surface water and unregulated surface water sources. Where additional entitlement is required, the EIS should demonstrate how this will be acquired.
- The EIS should clearly state whether the use of dewatering bores to reduce pit inflows will result in additional impacts to those predicted. This should address the impacts to the groundwater source and any connected water sources, in addition to the requirement to manage the dewatered water.
- An impact assessment of the borefield against DoI Water groundwater dealing/new bore impact assessment criteria is required, in consultation with Department of Industry - Lands and Water.
- An impact assessment should be provided of the proposed diversion of South Creek.
- The EIS should confirm the ability to achieve vegetated buffer requirements of 40m from the high bank to South Creek and Stratford Creek for all infrastructure proposed. This is not applicable for watercourse crossings.
- The EIS should confirm the value of flow reduction to justify the conclusion that South Creek and Stratford Creek flow regimes will not be significantly affected by the project

- The EIS should assess the risk of the actively eroding river bend on the Namoi River to the long term stability of the rail infrastructure and potential impacts to the geomorphic stability and hydraulic characteristics of the river itself. This is to confirm whether location or design change is required and to inform future mitigation requirements.
- Development must not be undertaken on affected Crown reserves or Crown roads prior to purchase or other written authorisation of impact by the Department. This includes Reserves currently held under Licence 488324 to Coalworks (Vickery South) P/L for the purpose of Investigation.

Agricultural Resources

- The EIS should address the cumulative impact of the project on the industrialisation of regional BSAL in the context of other mining, solar farm and rail infrastructure developments in the region.

Recommendations post project determination

The Department considers that the information identified above is needed to determine the proposal. Should sufficient information be provided to demonstrate that impacts are acceptable and can be managed to allow the project to be approved, the Department recommends the following:

Crown Lands & Water Resources

- Water Access Licences must be obtained for all water taken unless covered by an exemption.
- Site specific triggers for water quality should be developed if monitoring data indicates that default trigger levels may be exceeded by current (pre-construction) monitoring. Water quality triggers should be cited and justified by available sources.
- The potential impact of increased flow velocities on soil erosion and watercourse stability should be assessed. Where there is a measureable increase in velocity, an assessment of the potential for exceedance of soil erosion thresholds should be undertaken and relevant mitigating measures adopted as required.
- Any construction of piled foundations for the proposed rail bridge should include back-up protection measures and consider a worst case scenario in which water levels rise above low/no-flow conditions due to unexpected discharges in the Namoi River.
- The following should be included in future groundwater model reports:
 - A description of the recharge and discharge flow paths in the model.
 - Maps of the top and bottom model layer and cross sections showing model layer configuration.
 - A sensitivity and uncertainty analysis with respect to boundary conditions.
 - If the 'Middlemis' and 'Peeter's reference to "undertake an uncertainty analysis of model construction, data, conceptualisation and predictions..." is not available; an alternative reference should be used.
- Identify the presence and volume of potentially acid-forming waste rock, fine-grained amorphous sulphide minerals and coal reject/tailings material and exposure pathways:
 - Present an acid-base mass balance, based on scheduled volumetric rock mixing, and kinetically effective acid-forming potential and acid neutralising capacity of rock materials.
 - Identify potential exposure pathways for acidity and trace metals.

- Discuss conflicting analytical results with consideration of the effect of measurement error on interpretations.
- Ensure the surface water diversions are designed to convey the maximum discharge in a stable manner, and any downstream impacts are identified and mitigated. The use of natural channel design principles is recommended.
- Ensure dams proposed to satisfy an exclusion from holding water entitlement in the Harvestable Right Zone are designed in accordance with the relevant exclusion, eg. Schedule 1 (3) of the Water Management (General) Regulation 2018.
- Incorporate 'back-up protection measures' in the event that there is a rise in river discharge above the volume that proposed low/no flow sediment and erosion control measures are designed to deal with during bridge construction.
- Ensure all works adhere to the Guidelines for Controlled Activities on Waterfront Land (NRAR 2018).
- Develop a Water Management Plan in consultation with Lands and Water; including:
 - An incident response plan with triggers for the National Water Quality Management Strategy (NWGMS) guidelines (ANZECC/ARMCANZ latest issue).
 - Identification of hydrochemistry recharge/discharge processes.
 - A modelling plan section that clarifies future model verification and schedule of plan updates etc.
 - The requirements/criteria as listed in Section 11.1 (Appendix B). Adequate adaptive management measures and management responses.
 - Surface and groundwater sampling schedule (including routine and event based).
 - Address overflows from sediment dams to ensure they will be properly monitored and if concentrations are in excess of Guidelines, appropriate action (including reporting) is taken.
- Prepare a Construction Environmental Management Plan address measures to manage and mitigate impacts to soil, water, erosion, and hydrology. This should be developed in consultation with DoI Water.

Agriculture Resources

- The rehabilitation objectives should aim to maximise the total area to be returned to land suitable for agricultural use.

Yours sincerely



Alison Collaros
A/Manager, Assessment Advice
Lands and Water - Strategy and Policy
26 October 2018

**Vickery Extension (SSD 7480) – Modification
EIS Exhibition****Water Resources**

- Insufficient detail has been provided to confirm sufficient entitlement is held by the proponent to account for the proposed water take. References are made in the EIS to access licences associated with other projects, hence it is not clear if sufficient shares are held to account for all take for all projects where run simultaneously. In addition, no reference is made to entitlements held or the process to acquire entitlement in the unregulated water source to account for take from third order watercourses due to the proposed diversion dams.
- The potential for limitations on water availability from on-site water sources and reduced allocations from the regulated Namoi River is recognised in the EIS. Adequate reductions in water demand or use of alternative sources should be implemented when required to maintain the project during those periods.
- The use of dewatering bores is proposed to reduce pit inflows where higher open cut groundwater inflows are identified. The potential for additional impacts to result from this activity when compared to those presented from the open cut is not clearly addressed in the EIS.
- It is noted that surface water quality monitoring undertaken by the proponent indicates that current water quality may exceed the default trigger levels for the ANZECC guidelines. Site specific triggers for surface water quality should be developed to address these characteristics.
- The flood assessment provided to assess impacts of the rail spur and the levees in the south-east of the project predicts the impacts on flood levels, velocity and distribution to comply with the Draft Floodplain Management Plan for the Upper Namoi Valley Floodplain 2016. Increases of up to 20% in flow velocity is predicted in the vicinity of the rail spur which has the potential to result in erosion of the floodplain and the watercourses. This will need to be mitigated through appropriate controls or modification of the design.
- Parts of the secondary infrastructure area and the rail spur are located within close proximity to South Creek and Stratford Creek. References in the EIS to buffer widths require clarification. Lands and Water advises the vegetated buffer width from the high bank of both South Creek and Stratford Creek (4th order and greater) is 40m (80m plus channel width).
- It appears there is a requirement for a diversion of approximately 500m of South Creek near its confluence with Stratford Creek. An assessment of the impacts of the loss of this section of creek and a proposal to establish a diversion are not adequately addressed in the EIS.
- The rail spur near the Namoi River is in close proximity to an actively eroding river bend. This represents a risk into the future of potential undermining of infrastructure that needs to be considered and planned for.
- Dams proposed in the Harvestable Right Zone must be designed in accordance with a relevant exclusion if entitlement is not to be held or considered under the Maximum Harvestable Rights Dam Capacity. There is a proposal in the EIS to increase the capacity of dams collecting dirty runoff to supplement water supply. This would be inconsistent with the relevant exclusion.

END ATTACHMENT A