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Appin Mine – Water Management Plan

Thank you for giving the Department of Planning, Industry and Environment – Water (DPIE-Water) the opportunity to review the Water Management Plan for Appin Mine. DPIE-Water has reviewed the plan and provides the following comments:

Prior to approval

1. The project is to identify if the Water Management Plan (WMP) submitted is intended to address both Schedule 4, Clause 16 and Schedule 3, Clause 5 of the Conditions of Approval (08_0150), or if a separate WMP has been prepared for the purpose of Schedule 3, Clause 5. The current draft WMP does not address the requirements for a WMP as specified in Schedule 3, Clause 5.

2. Provide a clear, tabulated form of the water balance detailing water input to Appin Mine versus water output from the mine for easier comprehension of the water balances.

Further details can be found in Appendix 1. Should you have any further queries in relation to this submission please do not hesitate to contact the Natural Resources Access Regulator's Service Support Team at nrar.servicedesk@industry.nsw.gov.au.

Yours sincerely

Alison Collaros
Licensing and Approvals Manager (East)
Natural Resources Access Regulator
Department of Planning, Industry and Environment

Appendix 1:

The Water Management Plan (WMP) does not comply with Conditions of Approval 08_0150.

Whilst impacts relating to groundwater under Conditions of Approval 08_0150 Schedule 4, Clause 16 Surface Water Management Plan are required in:

(b) management plans for the surface facilities sites, that include:

- a Water Response Plan, which describes the measures and/or procedures that would be implemented to:
    - investigate, notify and mitigate any ground or surface water exceedances;
    - minimise, prevent or offset any adverse impacts to ground or surface water resources;

The document has been presented as a Water Management Plan, not a Water Response Plan as a component of a Surface Water Plan, and therefore must also satisfy

Schedule 3, Clause 5 Extraction Plan:

(h) include a Water Management Plan, which has been prepared in consultation with OEH, WaterNSW and DPI Water, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on watercourses and aquifers, including:

- surface and groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse impacts on water resources or water quality;
- a program to monitor and report stream flows and assess any changes resulting from subsidence impacts;
- a program to monitor and report groundwater inflows to underground workings; and
- a program to predict, manage and monitor impacts on groundwater bores on privately-owned land;

Although the current document has not been presented in connection with an Extraction Plan, it is clear the WMP as presented does not contain any references to groundwater impact monitoring other than that for hydrocarbon contamination. Contamination matters are administered by the EPA. As the WMP could potentially be referenced by any pending or existing extraction plan, DPIE-Water cannot endorse the WMP.

In review of the presented document, DPIE-Water makes the following comments in relation to groundwater:

Water Balance

The water balance is hard to decipher, a clear tabulated water in, water used and water out with balances would greatly improve understanding.

In terms of groundwater it is interpreted from the flowchart documented that 242 ML/year is contained in product moisture; 803 ML/year is extracted from Appin West underground workings; and 579 ML/year is extracted from West Cliff underground workings. A total of 1624 ML per year of groundwater take.

DPIE-Water interpret that a water volume of 2148 ML/year is discharged from varies approved discharge points. Whilst 27 ML/year is diverted to underground storage.

How much of this discharged water is groundwater or whether all the groundwater is held in the adequate underground storage is not clear.

Groundwater Take

The incidental groundwater ingress to each coal mine is not outlined. However, the overall volume is assumed to be as outlined in the water balance, a total of 1382 ML/year of pumped groundwater; this excludes 242 ML/year of groundwater as contained product moisture. This volume is stated to be directed to underground storage. The mine complex has underground storage capacity of 1710 ML/year in three storage Areas, 1, 4 and 5.

Further, and notably, there is no outline of groundwater take versus groundwater licence volume on an annual basis in regard to trigger level or Trigger Action Response Plan (TARP). Unless these are in a specific groundwater management plan, as yet to be supplied and reviewed.

Proposed Changes to Monitoring Programme

Improvement activities proposed for 2020 to 2025 period include to “Cease groundwater monitoring at Appin East and Appin North”. Justification for this is given that “Review of groundwater monitoring results indicates a trend of no hydrocarbon contamination” and that “No remediation of groundwater [is] required.”
DPIE-Water fail to see how discontinuing groundwater monitoring for contamination fits with the principal of “identify and deliver improvement projects that will reduce the impacts on biota in the Georges River as a result of the discharge from Appin North, and Allens Creek (and subsequent flows into the Nepean River) as a result of discharge from Appin West.”
It would be in the interest of all concerned parties that six-monthly monitoring be continued for a minimum of 10 years beyond closure of mines to assess continued compliance, unless this closure time frame is already met.

Groundwater (Contamination) Monitoring

Contamination monitoring in groundwater is monitored at two locations only, Appin East (three bores) and Appin North (one bore), under an EPA endorsed monitoring programme. DPIE-Water notes that this appears minimal in comparison to other mines operating in the state.

The type of contamination is not directly clear in the text of this section in the WMP. In addition, it is not clear, as it is not outlined, what elements and chemical compounds are being analysed for, nor what groundwater quality trigger level criteria are used to compare the analyses against.

General

Overall the WMP, as presented, is not a stand-alone document. There are numerous references to external located documents which the reader must source to understand this water management document.