

Our ref: OUT24/9494

Jack Turner
Planning and Assessment
Department of Planning, Housing and Infrastructure
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26 June 2024

Subject: Ulan Coal Mine (MP08_0184 – Mod 6) Amendment Report

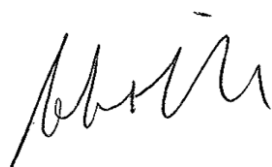
Dear Jack Turner

I refer to your request for advice sent on 17 May 2024 to the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) Water Group about the above matter.

The NSW DCCEEW Water Group has reviewed the submitted documentation and acknowledges the amendment includes a revised mine layout in the vicinity of Mona Creek. This is supported to mitigate risk to the connected water sources. In addition, DCCEEW Water has identified the need to reiterate a previous recommendation regarding the need to update the groundwater model and impact assessment, and makes recommendations regarding water licensing and groundwater monitoring. Please see Attachment A for more detail.

Should you have any further queries in relation to this submission please do not hesitate to contact DCCEEW Water Assessments water.assessments@dpie.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read "Rob Brownbill".

Rob Brownbill
Manager, Water Assessments
Knowledge Division
Department of Climate Change, Energy, the Environment and Water

Attachment A

Detailed advice regarding the request for comment on the Ulan Coal Mine – Mod 6 – Amendment Report

1.0 Groundwater modelling, impact assessment and monitoring

1.1 Recommendation prior to approval

The Department of Planning, Housing and Infrastructure request the proponent update the groundwater model to:

- include the latest observation data available to at least the end of 2023
- include a calibration using all available datasets, including all government groundwater monitoring bore data and a parametric sensitivity analysis to demonstrate the calibration is focused on the correct parameters
- be in accordance with the guideline, “NSW minimum groundwater modelling requirements for SSD/SSI projects (DPE 2022)”
- include an independent peer review.

Explanation

DCCEE Water’s recommendation at the RTS stage for the proponent to update the groundwater model is yet to be completed and remains an outstanding issue that needs to be addressed. This recommendation is due to the following.

- The model calibration used data collected until 2019, hence has not included a significant dataset for recent years.
- There seems to be outlier datasets which don’t represent the modelled system. The model calibration and performance assessment must be carried out using representative datasets only.
- The model calibration used only one observation from each government monitoring bore in the area whereas the entire timeseries needs to be used.
- The model verification reported does not compensate for the required model re-calibration.
- There is no clear evidence of a robust sensitivity analysis and parameter identifiability assessment as part of the model calibration. This is required to ensure that the model calibration adequately focuses on the most important parameters in the model. In addition, adequate sensitivity analysis is required to validate the suitability of the no-flow boundaries placed at the periphery of the model. If the model shows sensitivity to these boundary conditions, more suitable alternatives must be considered.

1.2 Recommendation prior to approval

The Department of Planning, Housing and Infrastructure request the proponent to undertake a revised assessment against the minimal impact considerations of the NSW Aquifer Interference Policy and present this separately for each potentially impacted water source. This is to be completed once the model is recalibrated.

Explanation

The groundwater impact assessment in the amendment report has not presented the minimal impact consideration assessment based on individual water sources. This assessment is required to satisfy the NSW Aquifer Interference Policy and to identify any changes due to the recommended model calibration.

1.3 Recommendation post approval

The Department of Planning, Housing and Infrastructure request the proponent to include additional monitoring of the shallow aquifer units in an updated Water Management Plan.

Explanation

Additional monitoring is required to verify if actual impacts in the shallow geological sequences are as predicted and to inform on potential baseflow losses to Mona Creek.

2.0 Water take and licensing

2.1 Recommendation post approval

The Department of Planning, Housing and Infrastructure request the proponent to ensure sufficient water entitlement is held in a water access licence to account for the maximum predicted take for each water source prior to the occurring.

Explanation

The proponent currently holds no entitlement in the Sydney Basin MDB Groundwater Source – Sydney Basin MDB (Macquarie Oxley) Management Zone where a maximum take of 7.89ML/yr is predicted during mining and 33.43ML/yr post mining. It is noted from the RTS that the proponent was in the process of obtaining the required entitlement, however this is yet to be confirmed. DCCEE Water understands there is limited trading history in this water source which may represent a challenge in obtaining the entitlement and a risk to the project.

Additional water entitlement is also required in the Upper Talbragar River Water Source to account for the predicted post mining peak water take of 54.35ML/yr. Currently the proponent holds 50 unit shares of entitlement and additional entitlement will be required prior to an exceedance occurring.

End Attachment A