

20 December 2024

Gabrielle Allan
Department of Planning, Housing and Infrastructure

Via: Major Projects Planning Portal

**EPA Advice on Submissions Report
Mod 3 Longwall S7A – Tahmoor South Project**

Dear Gabrielle,

I refer to the previous letter from the NSW Environment Protection Authority (EPA) dated 27 November 2024 responding to the Submissions Report for the proposed Modification 3 to the Tahmoor South Project (Application SSD-8445-Mod-3). Further to the previous letter, the EPA is providing our response on the greenhouse gas (GHG) assessment and information provided with the Submissions Report.

The EPA has reviewed the following documents:

- *Submissions Report* (Revision 1) – Simec – 11 November 2024
- *Greenhouse Gas Assessment* (Version 1) – EMM – 12 November 2024
- *Tahmoor Coal MOD3 - GHG Assessment - Response to NSW EPA submission* – EMM – 19 December 2024

The EPA understands the proposal is for the addition of longwall S7A, increasing the total volume of run-of-mine coal from 33 million tonnes to 35 million tonnes and extending the life of the mine by nine months until 31 December 2033.

Based on the information provided, the proposal will be regulated by the EPA under Environment Protection Licence (EPL) number 1389 (the licence), issued under the *Protection of the Environment Operations Act 1997* (POEO Act).

The EPA has reviewed the Submissions Report and makes the following comments and recommendations:

Matters to be addressed with conditions

1. Greenhouse Gas Emissions

The EPA has reviewed the GHG assessment and documentation against the draft NSW EPA Guide for Large Emitters (EPA, 2024). Proponents are required to nominate emissions reduction goals for the additional emissions due to the modification. This information has not been provided.

NSW Environment Protection Authority

As the environmental steward and regulator of our State we are committed to a sustainable future. Join us on our mission to protect tomorrow together.

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The Net Zero Commission's 2024 Annual Report raises concerns about the risks to the state's legislated emissions reduction targets from increased emissions in the resources sector. This highlights the importance of the proponent to set emission goals that represent a meaningful contribution to the emissions reduction objectives of NSW. Reliance on offsets to set or achieve reduction goals is not considered a suitable approach.

Noting the importance of reduction goals to meet NSW's emissions reduction targets, the EPA recommends that the GHG mitigation plan is revised to include interim and long-term emissions reduction goals. If this does not occur prior to a consent determination being made, the EPA recommends that a revised GHG mitigation plan with emissions reduction goals is provided after determination for the EPA for review prior to the commencement of Mod 3 related operations.

The EPA notes the proponent is currently investigating additional mitigation options, including flare optimisation, increasing generation capacity and addition of a regenerative thermal oxidiser. These options should be investigated and subject to independent review. Where feasible, these should be adopted and used to set updated reduction goals in the GHG mitigation plan.

The EPA also identified some points for improvement in the emissions estimates during its review. Whilst these improvements would not alter the outcome of the EPA's review, it is recommended that these should be addressed after determination and prior to commencement of Mod 3 related operations as part of the update to the GHG mitigation plan.

The EPA recommends the conditions in **Attachment A** be included as part of any approval of the modification to address these items.

Supporting information regarding the emission estimate improvements to be addressed after determination is provided in **Attachment B** to assist with the update of the GHG mitigation plan.

2. Groundwater and Surface Water

The EPA continues to recommend the Tahmoor South Groundwater Monitoring Program (GWMP) and Water Management Plan be updated to reflect the proposed modification as part of any approval, as detailed in **Attachment A**.

If you have any further questions about this matter, please contact Carlos Ferguson at environmentprotection.planning@epa.nsw.gov.au.

Yours sincerely,



DARREN WALLETT
A/Director – Policy and Strategy
NSW Environment Protection Authority

Attachment A – Recommended Conditions for Tahmoor South Modification 3 Longwall S7A (SSD-8445-Mod-3)

Greenhouse Gas Emissions

The conditions below are recommended to address interim and long-term reduction targets, emission estimate improvements and ongoing management of GHG emissions identified during the EPA's review of the GHG assessment.

1. Prior to commencing operations related to Modification 3, the Applicant must update, formalise, and implement the proposed greenhouse gas mitigation plan (the plan).
 - a. The plan's preparation must be consistent with the principles and requirements in the most recent version of the NSW EPA Guide for Large Emitters.
 - b. The plan must include interim and long-term (2031-2033) emissions reduction goals.
 - c. The plan must be revised to address issues raised by the EPA regarding the estimated emissions.
 - d. The plan must include that projected emissions must be used to evaluate the ongoing performance of the project and inform ongoing operations.
 - e. The revised GHG mitigation plan should be prepared in consultation with the EPA.

Note to include in consent: *The preparation of the Mitigation Plan does not preclude the consent holder from preparing and providing additional information in accordance with requirements under the EPA's regulatory framework, including conditions in the Environment Protection Licence.*

2. The Applicant must commit to investigate and evaluate additional mitigation measures as well as measures to increase the combustion of captured gas and destruction of the Ventilated Air Methane (VAM). Namely:
 - a. Flare optimisation.
 - b. Increasing power generation capacity.
 - c. Operating a regenerative thermal oxidiser (RTO) for the destruction of VAM.
 - d. Draining the coal seam methane to lower residual levels to further maximise what is used in the power station, the flare plant and reduce methane levels in the VAM.
 - e. Using post-mining gas from Tahmoor North (or other richer methane streams) to supplement the gas drained from Tahmoor South.

The evaluation should have regard, but not necessarily be limited to engineering constraints, regulatory obligations, and the Applicant's commitments to reduce emissions.

The assessment of mitigation measures must be reviewed by an independent expert. Reviews should be staged to match scheduled investigations and implementation timeframes as set out in Section 5.3 of the GHG assessment.

Where findings and conclusions of investigations identify that additional measures are feasible, the Applicant must commit their implementation and use the anticipated reduction performance to set reduction targets.

3. A maximum of 4 million tonnes of ROM coal may be extracted and processed on the site in any calendar year, and a maximum of 35 million tonnes of ROM coal may be extracted and processed on site over the life of the development.

Groundwater and Surface Water

The existing Tahmoor South Groundwater Monitoring Program (GWMP) and Water Management Plan should be updated to reflect the proposed modification.

The GWMP must include but not be limited to:

- a. validation and updates to periodic groundwater modelling,
- b. any changes to trigger action response plans resulting from the modification and renewed mitigation measures plans,
- c. ongoing updates to monitoring data.

Attachment B – Supporting Information for Tahmoor South Modification 3 Longwall S7A (SSD-8445-Mod-3)

Emission calculations

The EPA considers the emission estimates are consistent with contemporary practice and the emission factors used are adequate for calculations. While several points for improvement have been identified, these issues do not affect the outcome of the EPA's review.

The update of the GHG mitigation plan and revision of emissions estimates recommended by Condition 1 above should address the points below.

Scope 1

- a. The assumed frequency of uncontrolled venting and fraction of total captured gas vented should be provided to verify emissions.
- b. There appeared to be a discrepancy with the calculated ventilation air methane (VAM) emissions for scenario 2 (Table C.6 Tahmoor South Operations Modification 3, Greenhouse Gas Assessment – Draft NSW EPA Guide for Large Emitters – EMM consulting – November 2024 [GHG assessment]) compared with a multiplication of the ROM tonnes and the assumed VAM emission factor of 0.362 tonnes CO₂-e/tonne ROM. The EPA's review did not consider the discrepancy would substantively change the outcome however, emission factors and ROM tonnes used in calculations should be clarified with an appropriate number of decimal places in an updated GHG mitigation plan.
- c. Due to the complexity of the emission calculations, the Proponent should step out the calculations so decommissioned mine emissions can be replicated. Edm, Etdm, Fdm, N and T values should be tabulated by year.
- d. The date when the mine enters the decommissioned phase (where no coal extraction or mine ventilation is carried out) should be clearly stated.

Scope 2

- e. A typo was noted in Table C.7 of the GHG assessment for electricity consumption emissions for year 2032-33. The number should read 3,167.2 tonnes CO₂-e.

Scope 3

The product coal tonnes were not included in section A.4.2 of the GHG assessment. These are used to verify downstream emissions associated with the product coal.

- f. The estimated shipping emissions for scenario 2 (Table C.8) did not match up with a multiplication of the ROM tonnes, the assumed distance of 13,750 km and the shipping emission factor of 0.00353 kg CO₂-e/tonne.km. These calculations should be clarified.