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Our ref: DOC25/140322-12

Melissa Dunlop
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Dept Planning Housing & Infrastructure

By email: melissa.dunlop@dpie.nsw.gov.au

Dear Melissa,

Mod 4 - Cooranbong Coal Stockpile Extension (SSD-5145-Mod-4) – Surface Water Impact Assessment

Thank you for your email request dated 21 February 2025 seeking advice from the Conservation Programs, Heritage & Regulation Group (CPHR) of the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) on a Modification Application and Report for the Northern Coal Services Project - Mod 4 - Cooranbong Coal Stockpile Extension (SSD-5145-Mod-4).

We have reviewed the Modification Report and have provided comments relating to stormwater and flooding matters in **Attachment 1**.

If you have any further questions about this issue, please contact our Hunter Central Coast Planning Team at huntercentralcoast@environment.nsw.gov.au.

Yours Sincerely

Joe Thompson
Director Hunter Central Coast
Conservation Programs, Heritage & Regulation Group (CPHR)

1 April 2025

Enclosure - Attachment 1

Attachment 1 - CPHR Stormwater and Flooding Comments

Mod 4 - Cooranbong Coal Stockpile Extension (SSD-5145-Mod-4)

In preparing this advice CPHR has reviewed the following documents:

- Cooranbong Entry Site (CES) Stockpile Extension Modification, prepared by James Bailey & Associates Pty Ltd dated February 2025 (Modification Report)
- Surface Water Impact Assessment, prepared by Alluvium dated September 2024 (SWIA)

Key Assessment Issues

1.	<i>Frequency of dirty water overflows</i>	The proposed stockpile expansion area will result in an increase in dirty water runoff compared to existing site operations. The SWIA includes a water balance to assess whether this increased runoff can be managed within the existing water management system without resulting in additional discharges to the environment. The water balance results indicate there will be an expected increase in the frequency of daily spills from the ROM Stockpile Dam because of the proposed modification, increasing the number of annual spills from 1.1 to 11.7. As described in the SWIA, overflow from the ROM Stockpile Dam occurs via a manually operated valve and weir to Sediment Dam 1 and 2. To maintain controlled storage levels in these Dams, water is decanted to the Cooranbong Underground Storage through boreholes. These transfers aim to mitigate the risk of overflow from Sediment Dam 2 to licenced discharge location LDP001, during less frequent but larger rainfall events. Although the SWIA indicates that additional flow volumes can be “effectively managed within the framework of the current CES site water management system and are unlikely to result in any impacts to the downstream environment,” the water balance has not included a quantitative assessment of transfer between storages, including the capacity of boreholes or underground storages to accommodate additional flows. Recommended action: <i>The SWIA should be updated to include a quantitative assessment of the impact of increased spills from the ROM Stockpile Dam on water level management within Sediment Basin 1, Sediment Basin 2 and the Cooranbong Underground Storage, to determine if there will be a change in the frequency of overflows from Sediment Basin 2 to licences discharge location LDP001 because of the proposed modification.</i>
	<i>Extent and Timing</i>	Pre-determination

2.	<i>Potential reduction in water quality treatment time</i>	Sediment dams rely on extended settlement time to treat dirty water by removing pollutant laden sediments from runoff. The proposed modification will require increased movement of dirty water between different storages – ROM Stockpile Dam, Sediment Dam 1, Sediment Dam 2 and Cooranbong Underground Storage – to manage the additional volume of runoff generated from the proposed
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		stockpile expansion area. It is not clear if the movement of water between storages will impact on runoff settlement time and the treatment effectiveness of the sediment basins. Recommended action: <i>The SWIA should be updated to include a review of the required settlement times to effectively treat dirty water to confirm whether existing water quality treatment targets can be maintained.</i>
	<i>Extent and Timing</i>	Pre-determination

3.	<i>Preliminary flood impact assessment</i>	The SWIA includes preliminary flood modelling to evaluate the potential impacts of the clean water diversion on local hydrology and hydraulics. Key hydraulic controls within the area of interest include road crests, culverts and diversion drain. The model set-up and assumptions relating to these features (e.g. culvert capacity) mean modelled flood impacts are likely not representative of real-world conditions. Additionally, the flood impact assessment only includes one design event – the 5% Annual Exceedance Probability (AEP). No justification has been provided to explain why this event only was selected for the flood impact assessment. A range of design floods should be assessed to more completely understand the consequences of flooding on the business and community, as per Flood Risk Management Manual Guideline FB01 (NSW Government, 2023). Recommended action: <i>The SWIA should be updated to:</i> - <i>demonstrate the sensitivity of flood modelling results to assumptions relating to key hydraulic controls</i> - <i>simulate the 1% AEP design flood event, for existing and proposed development conditions to understand potential flood impacts both on and off-site for a range of design flood events.</i>
	<i>Extent and Timing</i>	Pre-determination