

5 December 2023

Joe Fittell
Team Leader
Department of Planning and Environment
Via email: Joe.Fittell@planning.nsw.gov.au

Re: Hunter Valley Operations Continuation Project -Response to Resource Regulator Advice

Dear Joe,

1 Introduction

This letter addresses matters raised in the NSW Resources Regulators (RR) advice on the Hunter Valley Operations (HVO) Continuation Project (the Project) - Environmental Impact Statement (EIS, EMM 2022).

It is noted that this letter provides additional information to that contained within the HVO Submissions Report (EMM 2023) and should be read in conjunction with that document.

2 Response to matters raised

Each matter raised by the RR is reproduced in the below grey boxes, with the response provided directly under.

Clarification that all Tailings Storage Facilities (TSFs) will have capping and a final landform that will meet industry-accepted guidelines for TSF closure, namely ANCOLD and the Global tailings Standard. In particular, a commitment is required that any surface water management structures (including spillways/drop structures) for TSFs in the final landform will be designed to the engineering requirements specified by these guidelines.

Proposed mine rehabilitation and closure activities are addressed in Section 21 and Appendix T – Mine Closure and Rehabilitation Strategy (the Strategy) of the EIS.

Section 2.3 of the Strategy identifies guidelines, policy's and industry requirements in which the document was prepared generally in accordance with. These documents include:

- *Guideline for mineral exploration drilling; drilling and integrity of petroleum exploration and production wells* (NSW Department of Industry, Skills and Regional Development – Division of Resources and Energy, March 2016)

- *Form and Way: Rehabilitation Management Plan for Large Mines (RMP) Guidelines*, September 2020 (Department of Regional NSW – Resources Regulator)
- *The Strategic Framework for Mine Closure* (ANZMEC and MCA, 2000)
- *Mine Closure – Leading Practice Sustainable Development Program for the Mining Industry* (Commonwealth of Australia, 2006, as updated)
- *Mine Closure and Completion – Leading Practice Sustainable Development Program for the Mining Industry* (Commonwealth of Australia, 2006)

The *Guidelines on tailings dams: planning, design, construction, operation and closure* Australian National Council on Large Dams (ANCOLD 2012) is a reference document of *Mine Closure – Leading Practice Sustainable Development Program for the Mining Industry* (Commonwealth of Australia 2006, as updated), and as such will be adhered to by HVO.

Whilst not identified within the Strategy, the standards contained within *Global Industry Standard for Tailings Management* (Global Tailings Review, 2020) are proposed to be adopted for tailings management in line with HVO's commitment to adopt leading practices in the planning, construction, operation, closure and rehabilitation of the Project as outlined in Section 2.4 of the Strategy.

It is noted that Glencore's (who is a joint venture party of HVO and provide operational management services to the mine) internal governing standard *Tailings Storage Facilities and Dam Management* (Glencore Coal Assets Australia, as updated from time to time) has been prepared in accordance ANCOLD 2012 and Global Tailings Review 2020.

All active and proposed TSFs within the HVO final landform are planned to be capped with self-draining final landform designs, however should any additional surface water management structures (including spillways/drop structures) be required, HVO proposes these will be designed to the engineering requirements specified by these guidelines or as agreed in consultation with RR and the NSW Department of Planning and Environment (DPE).

Clarification that the capping design for all TSFs will support the growth of trees associated with native vegetation final land use either overlaying or adjacent to the TSFs. If capping design cannot accommodate tree growth, further information is required on how this is managed as a post-closure maintenance activity.

All active and proposed TSFs within the HVO final landform are to meet the objectives of Domain A – Native ecosystem or Domain B – Agriculture grazing as described in Section 5.2 of the Strategy. This objective is reflected on conceptual final landform plans for both HVO North and HVO South as presented in the Figure B.15 and Figure B.16, respectively within the HVO Continuation Project Amendment Report (Amendment Report, EMM 2023).

Individual facility closure and capping management plans are proposed to be developed prior to closure of the facilities as noted within Section 7.1.2 of the Strategy. These individual facility plans will outline the appropriate capping requirements to support the final land use objectives. Should post closure maintenance be required to support the final land use, such as management of trees, this will be conducted as outlined under the post-closure maintenance activities outlined in Section 8.5 of the Strategy.

The Regulator has previously been advised that the known erosion resulting from poor landform design at the South-east TSF (also referred to as the East TSF) would be addressed by this area being removed and the final landform re-profiled as part of the continuation project. It would appear that this area is now outside the 'proposed mining area' for the project. Further information is required on how the known erosion issues and landform design for the South east TSF will be addressed by the project and if the target erosion rate specified in the project at 2 t/ ha/ year (peak 5 t/ha/year) can be achieved for the final landform over these areas.

It is unclear as to which TSF is being referred to by the RR, so a description of the current and proposed final landform development for the areas known as the East TSF rehabilitation and the South East TSF is provided below and presented on Figure 2.1. The Project pit crest extent is also depicted on Figure 2.1 to show these areas in respect to proposed future mining activities.

The East TSF rehabilitation is situated at HVO North inside the proposed mining area for the Project. The existing landform is currently undergoing remediation to address noted erosion and landform design issues (planned completion 2024) however this area would later be excavated as part of the Project. The target erosion rate for the intermediate landform has been assessed as very low (consistent with non-mining landforms) using the Revised Universal Soil Loss Equation, a different methodology to that used in the Project. This area will be integrated into the conceptual final landform design post mining as presented in the EIS.

The South-East TSF, which has been capped recently, is located outside of the HVO North mining footprint of the project, and as such will be rehabilitated in accordance with existing approvals and the *HVO Rehabilitation Management Plan (HVO 2022)*, and not further amended as part of the Project.



Figure 2.1 Location of East TSF Rehabilitation and South East TSF areas (Project pit crest extent in yellow)

Further information is required on how adequate capping material will be made available for the Cumnock 3 Void TSF. This issue was previously raised with Ravensworth Operations in 2020 as part of the Tailings Targeted Assessment Program undertaken at that time. It was understood at the time that capping material is required to be sourced from HVO and there remain uncertainties regarding how the substantial quantity of material will be transported from HVO to Ravensworth -Cumnock 3.

A development application under the *Environmental Planning and Assessment Act 1979* must be approved before a mining lease can be granted. A mining lease will only be granted for activities specified in the development consent.

The individual Project description for HVO North, see Appendix B of the Amendment Report (EMM 2023), identifies that material required to rehabilitate the Cumnock Void 3 TSF is to be sourced from HVO North, in accordance with the indicative stage plans (see Figure B.5 to Figure B.9 of the Amendment Report).

HVO has considered the volume of material required to cap and rehabilitate the Cumnock 3 Void TSF based on preliminary capping designs which has been accounted for in the final landform proposed for the Project. Suitable inert material for final capping has been identified and will be stockpiled ahead of the closure of the facility, alongside the required bulk material which is planned to be stockpiled within the waste emplacement areas of HVO North in West Pit as mining progresses and prior to the close of the Cumnock 3 TSF.

The transport and deposition of capping material from HVO to the Cumnock 3 Void TSF has been assessed within the EIS (EMM 2022). A mining lease currently exists over the TSF which will either be renewed or a new mining lease sought following issue of the development consent for the Project.

It is noted that slope stability of the rehabilitated landform has been assessed by a geotechnical engineer and that an acceptable Factor of Safety (FoS) will be achieved as part of the completion criteria but the FoS to be utilised is not provided. Please provide the FoS to be used for final landform design for closure and a justification for its use.

The preliminary geotechnical assessment completed for the Project determined the Factor of Safety (FoS) at multiple points around the walls of the pit designs, including the final low-wall slopes, and considers typical FoS acceptance criteria as the consequence of slope failure. A FoS of 1.5 was targeted where it was considered that a higher potential consequence of slope instability existed, with a minimum FoS of 1.2-1.3 generally considered for long-term stability.

Ongoing monitoring and data collection will be undertaken over the life of the operation, with the geological and geotechnical models continually updated as more data becomes available. The final landform designs are not static, and as more data becomes available the stability of the final walls will be reassessed and the design updated as required to maintain a long-term safe and stable final landform. As stated in the EIS a detailed Mine Closure Plan will be developed five years prior to the planned mine closure and will be aimed at achieving the proposed post mining landform and land use.

It is also noted that the options for use of pit-lakes in void may potentially include pumped hydro. Further information is required on whether the slope stability design will take into account the potential for rapid draw-down of pit-lake in the event of a pumped hydro scheme or other similar post mining land use that requires pumping of significant quantities of water.

To date the stability of the final void has not been formally assessed in consideration of a potential pumped hydro final land use. While pumped hydro is acknowledged as a potential final land use, approval is not being sought under the Project. If pumped hydro was to be formally considered as part of the mix of HVO's final land use, this would be subject to further assessment and approval prior to, or post cessation, of mining.

Our Mine safety team have reviewed the EIS Report and have also made the following comments:

- New or altered Tailings Storage Facilities will require the submission of a High-Risk Activity notification at the appropriate time before these works are carried out.
- Given the increasing depth of workings (to the base of the Barrett Seam in HVO North) it would be expected that appropriate monitoring for stability of both high and low walls would be included in the *Ground or Strata Failure Principal Hazard Management Plan* to ensure that actual results met the assumptions made in the geotechnical stability studies that were undertaken.

HVO acknowledges that new or altered TSFs will require the submission of a High-Risk Activity notification at the appropriate time before proposed works are carried out.

HVO notes that appropriate monitoring for stability of both high and low walls would be included in the *Ground or Strata Failure Principal Hazard Management Plan* and reference assumptions within the stability studies.

Should you have any queries regarding this letter, or require any further information, please do not hesitate to contact the undersigned at any time.

Yours sincerely



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