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Dear Sir/Madam

BENGALLA MINE CONTINUATION PROJECT - MODIFICATION 1 STATEMENT OF ENVIRONMENTAL EFFECTS

1 Introduction

Bengalla Mining Company Pty Limited (BMC) operates the Bengalla Mine in the Upper Hunter Valley of New South Wales.

Bengalla Mine is situated approximately 130 kilometres north-west of Newcastle and 4 kilometres west of the township of Muswellbrook.

On 3 March 2015, BMC was granted Development Consent (State Significant Development (SSD) 5170) by the Secretary of Department of Planning and Environment. This consent authorised the continued operations at a production rate of up to 15 Million tonnes per annum of Run of Mine coal until 2039. The application for development consent was supported by the 'Continuation of Bengalla Mine Environmental Impact Statement' (Hansen Bailey, 2013).

BMC is now seeking approval from the NSW Minister for Planning or their delegate for a modification to its State Significant Development SSD-5170.

GHD have been engaged to prepare a submission on the Bengalla Mine Continuation Project – Modification 1 Statement of Environmental Effects (SEE) on behalf of Muswellbrook Shire Council (MSC)

This report outlines the review of the SEE identifying key issues, information or assessment gaps and any other aspects which may impact on MSC's operations and the LGA.

2 Documents reviewed

The following primary document was reviewed:

- Development Consent Modification Statement of Environmental Effects (SEE), dated August 2015.

Other documents considered to provide background information included:

- Development Consent Modification Environmental Assessment (EA), dated June 2015.
- Ecology Assessment, Appendix C to SEE, dated June 2015.

- Surface Water Assessment, Appendix D to SEE, dated June 2015.
- Air Quality Assessment, Appendix E to SEE, dated June 2015.
- Acoustic Assessment, Appendix F to SEE, dated June 2015.
- Aboriginal Archaeology Assessment, Appendix G to SEE, dated 2015.
- The Surface Water Impact Assessment, Appendix J to the Continuation of Bengalla Mine Environmental Impact Statement, dated September 2013.
- Coal Mining Land Use Strategy, Muswellbrook Shire Council.
- Rehabilitation Management Plan, Bengalla Mining Company, dated April 2013.

3 Overview of proposal

In overview the proposal was described in the SEE as including:

- Utilisation of the Satellite Pit as a temporary dirty water catchment dam.
- Relocation of the Staged Discharge Dam Hunter River Salinity Trading Scheme staged discharge release point.
- Construction of clean water diversion levees in locations other than those already proposed.
- Revised location for the proposed relocation of the Hunter River and Washery Dams.
- Additional (possible alternative) location for the Explosives Storage Facility.
- Placement of fill from the excavation of CW1 immediately adjacent to CW1.

4 Approved works

The existing approvals for the Bengalla Mine permit:

- Satellite Pit Diversion Dam is shown on Figure 4 of the SEE (Year 4 Approved Mine Plan) but does not show in Figure 5 (Year 4 Modified Mine Plan).
- Construction of Clean Water dam (CW1) at a located north of Wybong Road with pumping of water from CW1 to Dry Creek– shown on Figure 4 (Year 4 Approved Mine Plan).
- Construction of Northern Clean Water Diversion Levees – not shown on Figure 4 (Year 4 Approved Mine Plan) but shown on Figure 5 (Year 4 Modified Mine Plan).
- Additional (possible alternative) Explosives Storage Facility – shown on Figure 5 (Year 4 Modifies Mine Plan).
- Relocation of the following dams at sizes similar and function to the pre relocated:
 - Staged Discharge Dam – shown on the Figure 4 (Year 4 – Approved Mine Plan) and retained on Figure 5. Figure 5 makes no reference to relocation of the discharge release point.
 - Washery Dam – shown as being relocated by year 4 as indicated on Figures 4 of SEE.
 - Raw Water Dam – shown as relocated by years 4 in SEE.

5 Issues overview

Use of Satellite Pit as a dirty water catchment dam.

The SEE indicates that prior to excavation of the Satellite Pit the existing culvert at the Southern Haul Road crossing of Dry Creek will be closed forming a closed catchment area between the Satellite Pit Diversion Dam and Southern Haul Road and extending westward to the Western Diversion Drain. The storage volume within this closed catchment will need to be of sufficient volume to prevent the discharge of contaminated water into the downstream reach of Dry Creek.

Additionally, prior to closure of the Southern Haul Road culvert, it will be necessary to relocate the EPL 6538 HRST discharge location. This is discussed in detail below. Relocation of the HRST discharge location will permit monitoring of discharges into the Western Diversion Levee.

The current approval shows operation of the Southern Pit Diversion Dam until at least Year 4. This structure is located upstream of the Satellite Pit on Dry Creek while the proposed modification indicates removal of the Satellite Pit Diversion Dam by Year 4.

Mining within the Satellite Pit is nominated as taking approximately 6 months. Once mining of the Satellite Pit is completed the proposed modification would permit part of the Satellite Pit (Satellite Dam) to be used as a dirty water dam until approximately 2019 or it is intercepted by mining operations.

The SEE does not provide detailed information on the potential discharge or use of water that drains into the proposed Satellite Dam. In the absence of information it has been assumed that the water will be either evaporated, used within the site water operations to reduce the extraction of water from the Hunter River or pumped to the Staged Discharge Dam for potential release under the HRSTS.

Subject to detailed design and confirmation of the structure sizing and the assumption of water use/disposal from the proposed Satellite Dam, Council has no significant concern with this aspect of the proposed modification as it appears appropriate for the future indicated mining operations and does not create additional environmental concerns.

Relocation of the Staged Discharge Dam Hunter River Salinity Trading Scheme staged discharge release point

The proposed relocation is linked to the creation of the Satellite Pit dam and the closure of the culvert at the Dry Creek crossing of the Southern Haul Road.

The proposed relocation is described as being at a location where discharge water from the Staged Discharge Dam will be pumped to a discharge point in the Western Diversion Levee. Council has interpreted this as meaning that the water will be discharged on the upslope side of the Western Diversion Levee so that it can flow along the levee and thence eventually to Dry Creek.

An indicative location of the proposed HRSTS discharge point is shown on Figure 5.

Subject to detailed design and the implementation of this new HRSTS discharge point prior to the establishment of the Satellite Pit, Council considers this proposed modification to be appropriate for the future indicated mining operations and it does not create significant adverse impacts to the environment.

Construction of clean water diversion levees in locations other than those already proposed.

Clean water diversion levees to direct clean water into CW1 were identified in the approved EIS. The proposal is to relocate the diversions as a result of the further investigations associated with the detailed design of the diversions.

The SEE contains minimal information on the design of the diversion levees. The proposed locations of the levees are shown in Figure 6 of the SEE.

Council notes the addition of 9.1 ha to the approved disturbance area for construction of the diversion levees.

The proposed relocation of the diversions requires the disturbance and removal of vegetation outside disturbance areas previously approved. The SEE states that approximately 6.1 ha of Box Gum Woodland and Derived Native Grassland and 2.28 ha of Low Diversity Derived Native Grassland/ Exotic Pasture will be impacted. Box Gum Woodland and Derived native Grassland is listed as an EEC and CEEC under both the NSW *Threatened Species Conservation Act 1995* (TSC) and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC).

The ecological assessment undertaken in the SEE concludes that there will be no significant impact on the TSC and EPBC listed communities.

The proposed relocation requires approximately 6.1 ha of EEC and CEEC to be impacted. The SEE text states that this impact is reduced to 1.55 ha as the majority of the vegetation community will only be temporarily impacted. Rehabilitation of the diversions to there previous condition following construction is proposed as a method of reducing the impact on EEC and CEEC vegetation communities. As such, the assessment of significance (AoS) has used mitigation/ compensatory measures to reduce the impact.

The AoS should not take into account mitigation or compensatory measures. Council believes the AoS should assess worse case scenario to appropriately determine the impact and need for a Species Impact Statement or Biobanking Assessment and EPBC referral.

Council also has concerns with the proposed rehabilitation of the EEC and CEEC areas for the following reasons:

- SEE and Ecological Assessment contain conflicting rehabilitation methods.
- The success of stabilisation of the impacted areas using the methods described is questionable due to soil structure changes and potential for erosion prior to establishment of groundcover.
- The success of re-establishing the vegetation to EEC and CEEC using the methods described is questionable due to potential for weed establishment and unknown seed bank.

Section 4.4.1 of the SEE outlines the justification for the Modification not being referred to the Federal Minister for approval under the EPBC Act. Council believes that there is an inconsistency between the outcomes of the Ecology Assessment and the discussion in the SEE text, specifically pertaining to the condition of the Box Gum Woodland and Derived Native Grassland community. The SEE text states that the vegetation community is degraded while the Ecology Assessment did not identify that the Box Gum Woodland and Derived Native Grassland community as being degraded. Furthermore if the vegetation was degraded it would not meet the definition of a CEEC.

Revised location for the proposed relocation of the Hunter River and Washery Dams

Figure 5 of the SEE indicates the Raw Water Dam and Washery Dam will be relocated to positions adjacent to ED1 and the SEE text indicates the relocation will be required by around 2019. By reference to Appendix D of the EA it would appear that ED1 is an approved storage that will eventually replace the Staged Discharge Dam.

The proposed locations for the new Raw Water Dam and the new Washery Dam are shown as being within the catchment of ED1 and outside the Western Diversion Levee.

Subject to the detailed design of these storages, Council does not have any significant concerns for the approval of this element of the modification.

Placement of fill from the excavation of CW1 immediately adjacent to CW1

Figure 6 of the SEE provides a diagrammatic representation of the proposed CW1 Emplacement Area which is shown as being within the approved disturbance boundary. The proposed Emplacement Area is shown immediately east of CW1. Associated text within the SEE indicates the maximum batter slope for the emplacement will be 1V:2H.

Figure 6 appears to show a clean water diversion levee around the emplacement.

Council has several concerns in relation to this emplacement. The concerns include:

- The batter slopes are indicated as being up to 1V : 2H. Council is concerned about the practicality of stabilisation of this batter. A sediment control dam is shown for the Emplacement Area but the functioning of the overall emplacement stabilisation is not considered to be clearly articulated.
- Temporary erosion control measures have been described in the SEE as being implemented and maintained until the materials are relocated. The SEE provides no information on the likely life of the emplacement and thus Council is concerned about the maintenance of this area.
- Any sediment, should it enter CW1 and remain in suspension, would be pumped through the discharge pipeline prior to discharge to Dry Creek downstream of any LDP.

Council does not consider this aspect of the proposed modification should be approved. Should the Department grant this aspect of the approved modification then Council is of the opinion that stringent requirements should be imposed on the implementation and maintenance of the constructed erosion control works for this modified emplacement.

Relocation of the Explosives Storage Facility.

The explosives storage facility is shown on Figure 4 of the SEE (Year 4 – Approved Mine Plan) as being located on the existing OEA in a fully bunded area.

The identified Explosive Storage Facility Envelope is shown on Figure 5 for the proposed modification.

Council does notes that part of this envelope is located upslope of the Western Diversion Levee which is a clean water diversion levee. As such, should the facility be located to the west of the Western Diversion Levee then appropriate erosion control measures should be implemented and maintained for the life of the facility to provide sediment and erosion protection for any disturbed area in the clean water catchment for the Western Diversion levee.

Council has made the assumption that the explosive storage facility or facilities proposed for construction in this area would be required to meet all applicable legislation and safety requirements.

Council has no additional concerns in respect to the approval of this element of the proposed modification.

6 Summary of submission issues

- The AoS should assess worse case scenario (not including mitigation or compensatory measures) to appropriately determine the impact and need for a Species Impact Statement or Biobanking Assessment and EPBC referral.
- The method of rehabilitation for EEC and CEEC areas temporarily impacted to ensure successful return to previous condition is unclear.
- The placement of fill from the excavation of CW1 immediately adjacent to CW1 should not be approved. Should the Department grant this aspect of the approved modification then Council is of the opinion that stringent requirements should be imposed on the implementation and maintenance of the constructed erosion control works for this modified emplacement.
- It is noted that part of this envelope is located upslope of the Western Diversion Levee which is a clean water diversion levee. As such, should the facility be located to the west of the Western Diversion Levee then appropriate erosion control measures should be implemented and maintained for the life of the facility to provide sediment and erosion protection for any disturbed area in the clean water catchment for the Western Diversion levee.

Yours faithfully



Steve McDonald
GENERAL MANAGER