

# Bengalla Mine - Independent Environmental Audit Responses



Bengalla Mining Company Pty Limited (BMC) was required to commission an Independent Environmental Audit (IEA) within one year from commencement under State Significant Development (SSD) 5170. BMC commenced operations at the Bengalla Mine (Bengalla) under SSD-5170 on 1 October 2015. In 2016 BMC commissioned Peter Horn to undertake the IEA. The IEA was undertaken in February 2017 and covered the period 1 October 2015 to 9 February 2017. The final audit report was provided on 5 August 2017.

The IEA assessed 980 conditions and commitments and identified nineteen (19) non-compliances. Some of the non-compliances are duplicated due to the replication of commitments between consent documents and management plans. Similar or duplicate non-compliances constitute an issue that the BMC needs to address to achieve compliance. The IEA identified ten (10) issues, of which three (3) were administrative (see Table 1).

A basic risk assessment was conducted for all non-compliances with Low/Medium/High risk levels as results. For the non-compliances that were not administrative (there were 3 administrative non-compliances), there were 16 Medium results. No High risks were identified in the audit.

Under SSD-5170 BMC is required to submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report within 6 weeks of the completion of the audit (by Friday 15 September 2017). This document outlines BMC's response to the recommendations and non-compliances contained in the audit report.

**Table 1: Response to Issues Resulting in Non-Compliance**

Issue No.	Issue Details	Conditions and Commitments Found Not Compliant	Audit Finding	BMC Response
1	Air Quality data lost due to incorrect programming of HVAS air quality monitors.	SSD 5170 Sch. 2 C 14 (b) EPL O2.1 (b)	Not Compliant Medium Risk	BMC engages AECOM Australia Pty Limited (AECOM), a National Association of Testing Authorities (NATA) accredited company, to undertake the operation, calibration and maintenance of the High Volume Air Samplers (HVAS) utilised at Bengalla. The HVAS are calibrated on a bimonthly basis in accordance with the relevant Australian Standards. In the event that data is lost due to incorrect programming, power outage or other unforeseen circumstances a make-up run is undertaken as soon as possible.
2	October 2016; Noise exceedance at AN04 which impacted private properties on Racecourse Rd, Muswellbrook.	SSD 5170 Sch. 3 C 4 EPL L 4.1 EPL L L 4.2 Noise MP 4.1	Not Compliant Medium Risk	Following each compliance attended measurement on the night of 17-18 October 2016, BMC's consultant, Global Acoustics Pty Ltd (Global), communicated the results to the appropriate BMC personnel in accordance with the procedure specified in the Noise Management Plan (NMP). The Open Cut Examiner (OCE) on duty immediately responded to the monitoring results by modifying the operations in the relevant area through relocating or ceasing use of equipment, before progressively restarting operations. This approach is consistent with the NMP. An additional compliance attended monitoring test was scheduled for one week after the event in accordance with the NMP. Global carried out the measurement at AN04 at 22:10Hrs on 23/10/16 and the results were compliant with the noise criteria in SSD-5170. BMC notified the NSW Department of Planning and Environment (DPE) of the exceedance, via email, on 19 October 2016. BMC has submitted a report to the DPE regarding the monitoring results at AN04 on 17-18 October 2016 as required by Condition 7 of Schedule 5 of SSD-5170. BMC did not receive any landholder complaints regarding noise or otherwise on the night of 17-18 October 2016. The nearest affected residents of privately owned land in the vicinity of AN04 were advised of the monitoring results in accordance with Condition 3 of Schedule 4 of SSD-5170. BMC has since developed and rolled out an environmental training package on-site.
3	The drop height of the coal conveyor at the coal stockpile was too great on the day it was inspected.	SSD 5170 Sch. 3 C 19 (a) AQMP 3.4.2	Not Compliant Medium Risk	BMC will undertake air quality training with the relevant CHPP personnel prior to 31 December 2017.
4	15-16 January 2016, the Windmill Dam and ROM North Dam over topped releasing sediment laden water.	SSD 5170 Sch. 3 C 23 SSD 5170 Sch. 3 C 24 EPL L 1.1 Water MP Table 1	Not Compliant Medium Risk	The incident was notified to the Environmental Protection Authority (EPA) enviroline on 18 January 2016. The EPA was concerned that the incident was contrary to sections 64, 120(1) and 148 of the POEO Act and have investigated the incident. BMC acknowledged the EPA's concerns about the incident and BMC has given and the EPA has accepted a number of undertakings. In the undertakings made in clauses 3.3 to 3.11 BMC proposed to take action to prevent any similar incidents in future. These actions included: • Instillation of sediment fences in appropriate locations. • Connection of the East Windmill, West Windmill and North ROM dam catchments to other water storage facilities. • Development and rollout of an environmental training package. • Instillation of depth markers in the two sediment dams that are not connected to the Mine Water System. • Update of the induction presentation.
5	There were no measures in the Water Management Plan for the assessment of baseline channel stability.	SSD 5170 Sch. 3 C 24 Water MP Table 1	Not Compliant Administrative	BMC will clarify the application of baseline streambed stability monitoring and identify measures for the assessment of baseline channel stability in an updated Water Management Plan (WMP) prior to 31 December 2017.
6	Some slopes around sediment dams at the base of the eastern face of the were greater than 18'.	MOP 7.2.3	Not Compliant Medium Risk	BMC acknowledges that the rehabilitated slopes around the sediment dams at the base of the eastern face of the Overburden Emplacement Area (OEA) are greater than 18'. This is a legacy issue and has been identified on plan 4 of the approved 2015-2021 Mine Operations Plan (MOP) Amendment A. Furthermore, rehabilitation monitoring undertaken by AECOM in December 2016 has identified that, despite some low level erosion, all slopes across the rehabilitation areas are generally stable.
7	Use of wheeled dozers instead of tracked dozers was not occurring.	Noise MP 4.3.2	Not Compliant Administrative	This condition in the NMP has come from the 'Continuation of the Bengalla Mine Environmental Impact Statement' (Bengalla EIS) (Hansen Bailey, 2013). Appendix H of the Bengalla EIS is an acoustic impact assessment that was completed by Bridges Acoustics (Bridges). In Appendix H the condition is as follows "use wheel dozers rather than track dozers on acoustically exposed sections of the OEA, particularly during the sensitive night period". Advice was sought from Bridges in regards to the use of tracked dozers on exposed areas. Bridges has advised that a tracked dozer at a slow speed (to minimise track noise), and a wheel dozer, make a similar sound power level so appear similar in the EIS modelling. Therefore this condition has been removed from the NMP and has been replaced with the following condition "Dozers operating in elevated areas to use low gear only". Additionally, under the NMP, operations on elevated and exposed sections of the OEA are generally avoided during the sensitive night period. The updated NMP was approved in August 2017.
8	No training aimed at managing road noise in travel to and from the site was conducted in the audit period.	Noise MP 4.3.3	Not Compliant Medium	The road noise section has been removed from the NMP as approved by DPE in August 17.
9	A stockpile or laydown area next to the western clean water diversion did not have sediment controls in place.	Water MP 3.9.4	Not Compliant Medium Risk	Temporary stabilisation of this stockpile was undertaken on 8-10 March 2017. Robson Civil topsoiled, hand seeded (pasture mix) and harrowed the stockpile on behalf of BMC.
10	Environmental Management Strategy refers extensively to Coal & Allied management documents and management regime which no longer apply to the site.	EMS S.1 and others.	Not Compliant Administrative	Since the IEA was undertaken in February 2017 the Environmental Management Strategy (EMS) has been reviewed and updated. In the new version of the EMS the references to Coal & Allied management documents have been removed. These references have been replaced with references to BMC's management documents and management regimes.

**Table 2: Recommendations**

Item No.	Recommendation	BMC Response
1	Revise the MOP to include the details of SSD 5170 MOD 2, specifically the change in landform.	In August 2017 BMC submitted the MOP (2017 - 2021) to continue mining in accordance with MOD1-3 of SSD-5170 and to incorporate the requirements of SSD-5170 Condition 46 for a RMP into this MOP as requested by DRE.
2	Remove the nominated mitigating action "Use of wheeled dozers instead of tracked dozers from exposed areas" from Section 4 of the NMP.	Refer to Table 1, issue 7.
3	Revise the PIRMP and review against the EPA Guideline – Preparation of Pollution Incident Response Management Plans, 2012.	BMC conducted a Pollution Incident Response Management Plan (PIRMP) test exercise on 15th December 2016. The scenario was that significant heating of the clean coal stockpile had resulted in a stockpile fire with the prevailing winds carrying large volumes of smoke towards the town of Muswellbrook. The test was attended by the Technical Services Manager, Environment & Approvals Specialist and the two Environmental Advisors. The testing identified a requirement to update the PIRMP. In March 2017 the PIRMP was reviewed and updated based on the EPA Guideline and the results of the testing undertaken in December 2016.
4	MOP Plan 4 should show linkages to surrounding vegetation.	Domain M on MOP Plan 4 identifies the tree corridors and tree restoration areas. These areas include: • A 1km section of Dry Creek, to the south of the Project Boundary. • A tree corridor from the Hunter River to the areas west of the final void; and • Rehabilitation of riparian areas on BMC owned land, that are located in Dry Creek nearby the Hunter River, and retained riparian areas within the Project Boundary. However, these tree corridors and tree restoration areas are not planned to be completed within the current MOP period and as such are not specifically detailed in the MOP. Domain D on MOP Plan 4 identifies the pasture areas. The MOP states that these areas will be reconstructed from species appropriate to farms and mines in the Upper Hunter Valley. As such the pasture areas will link in with the surrounding agricultural land uses. As identified on MOP plan 4 native vegetation will be included in the pasture areas to create biodiversity connectivity and windbreaks and wood lots for stock shelter.
5	Attention needs to be paid to drop height maintenance when loading the coal stockpiles. It is noted that drop height minimisation is within the current procedures.	Refer to Table 1, issue 3.
6	Update Blast Fume Generation Mitigation and Management Plan to include details on rating system used, recording requirements for fume event ratings and reporting requirements for regulatory purposes.	BMC will update the Blast Fume Generation Mitigation and Management Plan as per the recommendation. BMC propose to update the plan prior to 31 December 2017.
7	BMC should ensure the planned rehabilitation for 2017 occurs as planned to avoid falling out of step with MOP predictions.	BMC is targeting eight hectares of rehabilitation in 2017. As at July 2017 approximately 6ha had been shaped and is planned to be finalised (i.e. topsoiled, seeded etc.) in September 2017. The remaining 2ha is expected to be available for rehabilitation in early October 2017.
8	The auditors observed early signs of scouring of steep batter gradients on upstream embankment face of CW1. The design of the dam crest with the vehicle windrows resulted in concentrated flows down batter with no erosion protection measures in place. Measures should be developed and implemented to remove the concentrated flows where possible. Where this is not possible, the concentrated flows should be managed to remove the potential for erosion.	BMC engaged the Daracon Group to refurbish the eroded areas on the upstream embankment face of the CW1 dam using 2 tonnes of crusher dust. This work was undertaken in early September 2017.