



Review of Environmental Assessment

Bengalla Continuation Project

SSD-5170

Submission

Construction Forestry Mining and Energy Union

(Mining and Energy Division)

Northern District Branch

October 2013

On 17 December 2012 Bengalla Mining Company Pty Limited applied to the Minister, Department of Planning seeking approval for the continuation of Bengalla Mine. The proponent is seeking a new Development Consent under Division 4.1 of the Environmental Planning and Assessment Act 1979 to enable mining to continue for an additional 24 years at a maximum production rate.

The Director General made the Environmental Assessment publicly available on the 4 September 2013 at the DP & I Information Centre Sydney, Muswellbrook Shire Council and Nature Conservation Council.

The Union is pleased to take the opportunity to comment on the Bengalla Continuation Project and related activities Environmental Assessment.

The Mining and Energy Division is a Division of the CFMEU under the Federal Workplace Relations Act 1996, with over 120,000 members, one of the largest in Australia. The Division covers several industries including the coal industry, coal ports, metalliferous mining industries, electrical power generation, oil and gas and the Nation's small coking industry.

The Northern Mining & NSW Energy District Branch of the CFMEU Mining and Energy Division, being the branch that on behalf of the organisation which is making the submission is the principal Union representing coal miners in the Northern District coalfields of New South Wales. The Bengalla Coal Mine operation is located approximately four kilometres east of the township of Muswellbrook and is wholly within the State's Northern District coalfields.

The Union is familiar with the Bengalla coal facility site and has engaged the services of an Environmental Consultant with extensive experience in local government and environmental assessments on coal mining related projects.

After reviewing all the material and taking advice, the Union supports the Bengalla Continuation Project as proposed.

Project Overview

Bengalla Mining Company is seeking Development Consent to facilitate the continuation of open cut mining for 24 years largely within current mining authorities and within the Project Boundary to facilitate:

- Open cut mining towards the west at a rate of up to 15 Mtpa to a total of 316 Mtpa of ROM coal;
- Continued use of the existing dragline, truck fleet and excavator fleet with progressive replacement or substitution with equivalent equipment;
- An out of mining area Overburden Emplacement Area to the west of Dry Creek which may be utilised for excess spoil material until it is intercepted by mining;
- Continued use, extension or relocation of existing infrastructure, including administration and parking facilities, in-mining area facilities, helipad, tyre laydown area, explosives and reload storage facility, core shed workshop, roads, reject bin, ROM Hopper, stockpiles, conveyors, water management infrastructure, supporting power infrastructure, rail and rail loading infrastructure and ancillary infrastructure;
- Construction and use of various items of new infrastructure and construction of the Mount Pleasant Staged Discharge Dam;
- Processing, handling and transportation of coal via the (upgraded) Coal Handling and Preparation Plant and rail loop for export and domestic sale;
- Continued reject and tailings co-disposal in the Main Overburden Emplacement Area and temporary in-mining area reject management;
- Relocation of a 6 kilometre section of Bengalla Link Road at approximately Year 15 near the existing mine access road to facilitate coal extraction;
- The diversion of Dry Creek via dams and pipe work with a later permanent alignment of Dry Creek through rehabilitation areas when emplacement areas are suitably advanced;
- Relocation of water storage infrastructure as mining progresses through existing dams (including the Stage Discharge Dam and raw water dam); and
- A workforce of approximately 900 full time equivalent personnel (plus contractors) at peak production.

Stakeholder Engagement

A range of stakeholders were identified to be consulted in relation to the Project based on Bengalla Mining Company's existing stakeholder relationships and a review of existing databases developed during the preparation of previous modifications. Consultation occurred with various Local, State and Commonwealth government agencies to provide an understanding of the Project and some key findings of the technical studies.

Environment Impact Statement Project briefings were offered to neighbouring land owners and the wider local community via telephone, personal letters and community newsletters. Near neighbours were provided with a personal letter outlining the details of the Project and extending an invitation to attend one of the upcoming Project community information sessions. Advertised, specific community information sessions were in Muswellbrook each Thursday in March 2012. The information sessions were designed to provide a Project Team member to which members of the community would find more readily accessible to meet and discuss the Project. In total, nine people attended the information sessions where they had the opportunity to meet and discuss potential concerns with Project personnel.

Six newsletters were distributed in relation to the Project to near neighbours, regulators and other interested parties, with two distributed to over 8,500 residences in the Muswellbrook area.

Aboriginal community consultation for the Project was conducted in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents in 2010 with 30 Aboriginal organisations registering an interest and participating through the process.

Air Quality

An Air Quality Impact Assessment was undertaken by consultants Todroski Air Sciences to predict the air quality impacts on receptors in the vicinity of the Project and to recommend measures to account for these impacts. In total, the Project is predicted to impact four private receptors (106, 110S, 110N and 156S) and five private properties (109 and 245/246/249/250) above relevant air quality criteria excluding those that are currently entitled to acquisition by other mining companies.

The cumulative annual average PM₁₀ is predicted to be exceeded at three privately owned receptors 106, 110N and 110S. In addition, there are six properties owned by three landholders which do not have a residence (109, 111, and 245/246/249/250) where more than 25% of the property area is predicted to experience exceedances of relevant criterion.

The maximum 24-hour average PM₁₀ is predicted to exceed relevant criteria at least one day per year under worst case weather conditions at six private receptors (29, 156S, 161, 222, 230 and 286) in addition to those which are currently entitled to acquisition by other mining companies. Of these six receptors, only receptor 156S alone is expected to experience Project exceedances on more than five days in any year.

There are not predicted to be any exceedances of the annual average TSP and dust deposition criteria at private receivers, excluding receptors which currently have a right to acquisition upon request. Similarly, there are not predicted to be any exceedances of the advisory reporting standards for PM_{2.5}.

The assessment determined that air quality impacts caused by construction activities would be short and sporadic, and that the total dust generated by construction is minor compared to operational dust emissions. As a result, construction activities are not expected to cause any discernible impacts above the predicted operational impacts.

Impacts arising from the transportation of coal by rail were assessed by predicting TSP and PM₁₀ at a distance of 50 metres from the rail line. In rural areas and urban areas, the 24-hour average TSP and PM₁₀ are predicted to be well below levels known to cause adverse impacts on human health and amenity.

A cumulative sensitivity analysis was completed to consider the Mt Arthur Coal and Xstrata Mangoola Coal Mine's recently submitted modifications to their respective approvals. This analysis confirmed that there are no additional private receptors predicted to be impacted as a result of the Project and currently proposed modifications beyond NSW Government amenity guidelines.

The proponent will update its existing Air Quality and Greenhouse Gas Management Plan in consultation with the relevant regulators and shall include all reasonable and feasible mitigation measures to minimise air quality impacts. Bengalla Mining Company will continue to operate its air quality monitoring network, including real time dust monitors and a meteorology station. The existing dust and blast management systems will be upgraded with a real time air quality management system combined with predictive meteorological forecasting.

Noise

An Acoustic Impact Assessment was undertaken by consultants Bridges Acoustics for the Project. It included an assessment of the noise impacts resulting from the Project. The noise levels generated by the Project during the operational phase were assessed using the intrusiveness criteria.

Significant noise impacts (greater than 5dB above the intrusive criteria) are predicted to occur at six private receptors (110N, 152, 153, 154, 156E and 156S) owned by five landholders that are not currently subject to acquisition by other mining companies, upon the request of the landowner.

An additional 11 private receptors (105, 106, 108, 110S, 126N, 146, 156W, 161, 186N, 180 and 184) owned by nine landowners would be moderately affected (between 2 and 5 dB above the intrusive criteria) by the Project under a worst-case noise modelling scenario. In total, 12 private receptors have been predicted to experience mild noise impacts (between 1 and 2 dB above the intrusive criteria) from the Project.

Cumulative noise levels generated by the Project and other sources were assessed to the amenity criteria. Although the Project will contribute to cumulative noise impacts at some receivers, there are not predicted to be any cumulative exceedances of the amenity criteria at any private receiver.

There are two additional properties (111 and 211) predicted to experience a significant noise impact from the Project in one or more modelled years over more than 25% of the vacant land in contiguous landownership that are not currently subject to acquisition by another mining company on request.

An additional four properties (109, 121/125 and 167) owned by three landholders would also be moderately affected by noise over more than 25% in contiguous landownership. A further three properties (99/100 and 101) owned by two landholders are predicted to be mildly affected by noise over more than 25% of contiguous landownership. All other private receptors and properties are predicted to receive noise levels within intrusive criteria.

The modelled noise contours for construction activities indicate there are no additional receptors significantly or moderately affected by construction noise levels more than 10 dBA above the noise criteria under prevailing weather conditions.

The existing background road traffic noise levels along Denman Road are presently above relevant criteria at some residences and will not increase materially as a result of the Project. The maximum predicted increase in road traffic noise is 1.8 dB during the construction phase and 1.5 dB during the operational phase of the Project.

The rail traffic noise is predicted to continue to exceed relevant criteria at various locations near Muswellbrook along both the Main Northern Railway Line and the Ulan Railway Line. Additional train movements associated with the Project are predicted to increase noise levels by approximately 0.7dB near the Ulan Railway Line between the Project and Muswellbrook and by approximately 0.5 dB at residences near the Main Northern Railway Line south-east of the Ulan Line Junction.

The proponent will continue to implement engineering controls to minimise the noise levels generated by heavy mobile equipment and coal processing facilities. The proponent will also upgrade the existing real time noise monitoring program to include a predictive system to reduce impacts at private receivers.

Blasting

All residences within 1500 metres of active mining areas are owned by mining companies or entitled to acquisition by mining companies. Exceedances of the overpressure and ground vibration criteria are not predicted to occur at distances of more than 1500 metres from mining areas. Therefore, the blasting associated with the

Project will not impact any privately owned receptors that are not currently entitled to acquisition by mining companies.

Blasting impacts on heritage structures and communications masts are predicted to be within acceptable limits. Blasting will continue to be undertaken within 500 metres of the Muswellbrook-Ulan Railway Line in the early years of the Project. The proponent will continue to consult with the ARTC to ensure that there are no impacts on passing trains.

Visual

A Visual Impact Assessment was undertaken by JVP Planning and Design to identify the potential visual and lighting impacts caused by the Project.

Most locations in Muswellbrook will be shielded from the Project by the rehabilitated eastern areas at the existing Bengalla Mine. However, some locations in South Muswellbrook will experience limited views of the mining area. Although these locations are sensitive, the visual impact will be low as the visible component of the mining areas represents only a small percentage of the view.

The Project is not visible from Aberdeen due to the screening provided by rehabilitated areas. The township of Denman will also be shielded from the Project. The visual sensitivity of these locations is low due to the significant distance from Denman to the Project. As a result, the visual impact on Denman will be low.

The Project is screened from sensitive locations on the Mt Arthur Coal owned Pukara Estate by olive trees, resulting in low visual impact. However, there will be high visual impacts at the working areas at Pukara Estate. These working areas are generally not accessed by the public.

The nearest privately owned vineyard is located approximately 12 kilometres south west of the Project Boundary. Due to the significant distance from the Project the visual impact is predicted to be low.

There are not expected to be any significant impacts on rural residences to the north and east of the Project. Views from these locations will be screened by the rehabilitated areas at the existing Bengalla Mine.

Rural residences to the south and south-west are subject to views of the existing Bengalla Mine. These locations will continue to experience views of the Overburden Emplacement Area and active face. To the west of the Project, the rural residences that are currently impacted will continue to experience moderate to high visual impacts from the active face.

The lighting effects produced by the Project will be similar to the effects generated by the existing Bengalla Mine. Since mining will progress to the west, lighting impacts are expected to decrease for receptors to the east and increase for receptors to the west.

In order to reduce visual impacts, progressive rehabilitation of the Overburden Emplacement Areas will continue to be undertaken. This will reduce the contrast between the components of the Project and the surrounding landscape. Landscape plans will ensure that rehabilitated areas emulate the surrounding pasture land and open woodland.

Surface Water

A Surface Water Impact Assessment was undertaken by consultants WRM Water and Environment.

During the Project life, the catchment area draining to Dry Creek will be reduced by 983 hectares. The final landform will reduce the Dry Creek catchment by 22 per cent compared to the pre-mining catchment. The reduction in the Hunter River catchment both during and after mining will be negligible at around 0.1 per cent.

The reduction in catchment areas will result in reduced flow volumes in the Hunter River and Dry Creek. Flow volumes in the Hunter River will be reduced by between 458 ML per year to 923 ML per year during mining and by 423 ML per year after mining which represents approximately a 0.2 per cent reduction in the Hunter River's flow volume. Bengalla Mining Company will hold all relevant licences, share component and

allocation required to comply with the Water Management Act 2000 and Water Act 1912 requirements.

A water balance was undertaken to determine the volumes of water that will need to be extracted from and/or discharged into the Hunter River. Raw water will need to continue to be extracted from the Hunter River to meet operational water demands. The median external water requirement is predicted to be 1500 M:/year. Bengalla Mining Company holds share components totally 6011 units for the Hunter Regulated River Water Source comprising 1449 High Security Units and 4562 General Security Units to account for any potential impacts.

Excess water accumulated on site will continue to be discharged into the Hunter River in accordance with the rules of the Hunter River Salinity Trading Scheme. Under average rainfall conditions, the Project will not need to discharge any water.

All components of the Project are located outside of the 1 in 100 year flood extent of the Hunter River as the Project mines further away to the north-west from the Hunter River than the existing Bengalla Mine. Therefore, the Project is not expected to impact the flood behaviour of the Hunter River.

The Bengalla Water Management System has been designed to minimise the impacts on flow volumes in the Hunter River, avoid uncontrolled releases of contaminated water and minimise raw water usage.

Ground Water

A Ground Water Impact Assessment was undertaken by consultants Australasian Groundwater and Environmental Consultants.

The only significant aquifer in the vicinity of the Project is the Hunter river alluvial aquifer. Mining occurs closest to the Hunter River alluvium at the beginning of the Project, and further away than the currently approved Bengalla Mine. In Year 1, the Hunter River alluvial aquifer in the immediate vicinity of the Project will continue to experience drawdown of less than 2 metres. The drawdown of the alluvial aquifer will

reduce as mining progresses towards the north-west. This water will be accounted for by allocation attached to relevant licences which are already held.

Under pre-mining conditions, groundwater inflows from the Permian to the alluvium. The Project will cause Permian groundwater to flow to the open cut mining areas thereby reducing the alluvium. The maximum reduction in the flow to the alluvium is approximately 0.63 ML/day at the beginning of Year 1. The maximum annual reduction in the flow to the alluvium is approximately 220 ML/year in Year 1. As mining moves away from the alluvium, the reduction in flow decreases to approximately 0.25 ML/day in the later years of the Project life.

The volume of groundwater inflows into the mining area is predicted to average 110 ML/year. Maximum groundwater inflow rate is predicted to be 365 ML/year.

There are a number of registered mine-owned bores within the zone of depressurisation. However, only one impacted registered bore is located on privately owned land and the drawdown at this bore is predicted to be less than 2 metres. This is the same as the minimal impact requirement under the Aquifer Interference Policy.

Water will accumulate in the final void following mine closure. The water level of the final void is predicted to reach up to RL 37 metres. This water level is significantly below the crest of the final void, making it very unlikely that the final void will overflow.

A peer review of the Groundwater Impact Assessment was undertaken by Kalf and Associates. The peer review concluded that the groundwater model was fit for purpose and that the impacts predicted by the model were reasonable.

Aboriginal Archaeology and Cultural Heritage

An Aboriginal Archaeology and Cultural Heritage Impact Assessment were undertaken for the Project by consultants AECOM Australia.

A total of 289 Aboriginal sites were identified within the Study Area. The Project will impact 263 of these sites, comprised of 259 artefact scatters or isolated artefacts, one stone quarry and three potential scarred trees. The stone quarry is considered to be of high archaeological significance. The three scarred trees and two of the artefact

scatters are considered to be of moderate archaeological significance. The remaining artefact scatters and isolated artefacts are of low archaeological significance.

The identification of stone artefacts and archaeological sites notwithstanding, Aboriginal stakeholders involved in the assessment process have not disclosed any specific knowledge related to these artefacts or sites. However, during the archaeological survey, Aboriginal stakeholders noted the importance of B10 quarry site for its rarity in the Hunter Region, being one of only a handful of these site types found locally. In addition, Aboriginal stakeholders highlighted several key landscape features as important on the basis of their associated archaeological record.

In order to account for the impacts to Aboriginal cultural heritage, the existing Aboriginal Cultural Heritage Management Plan will be revised in consultation with registered Aboriginal parties and relevant regulators. The Aboriginal Cultural Heritage Management Plan will outline mitigation measures, including surface collection of artefacts, scarred tree investigation and removal and fencing of sites that are not impacted by the Project. The management plan will also include procedures for the care and control of salvaged artefacts.

Historical Heritage

The assessment identified five historic sites within the Project Boundary. The Project will directly impact three historic sites: House Site 1, House Site 2 and the Stockyard with only the Stockyard determined to be of local significance. House Site 3 is located within the Project Boundary but will not be impacted by the Project.

Due to the air quality and noise impacts of the Project, the Bengalla and Overdene homesteads will continue to remain vacant. The visual impacts of the Project on the Bengalla, Overdene, Edinglassie and Rous Lench homesteads will be similar to the impacts currently experienced. Therefore, the Project will continue to indirectly impact these homesteads. There are not expected to be any indirect impacts on House Site 3, Dalama Stud, Blunt's Butter Factory or the Keys Family Private Cemetery.

Impacts on historic heritage items will be managed in accordance with the European Heritage Management Plan, which will be revised in consultation with relevant regulators.

Ecology

An Ecological Impact Assessment was undertaken by consultants Cumberland Ecology for the Project.

The Project will result in the disturbance of approximately 881 hectares of native vegetation, including forest and woodland communities and large areas of open grassland and scattered trees. An additional 69 hectares of non-native vegetation will be removed, including tree and shrub plantations, exotic grasslands and Low Diversity Derived Native Grassland/Exotic Pasture.

The Project will remove approximately 554 hectares of Threatened Ecological Communities including 535 hectares of critically endangered Box Gum Woodland. The area of Box Gum Woodland to be impacted represents 9 per cent of the community in the Hunter Region and 0.2 percent in the community in New South Wales.

Two threatened flora species were identified within the Project Boundary; Lobed Blue Grass and tiger Orchid.

Nine species of threatened fauna were identified within the Project Boundary, consisting of four woodland bird species and four microbat species and the Squirrel Glider. An additional 12 species have the potential to occur in this area. All of the native vegetation within the Project Boundary is considered suitable habitat for the threatened fauna species that have the potential to occur in this area. Therefore, the Project will remove approximately 881 hectares of potential habitat for threatened fauna species.

The Study Area is essentially dry and lacks aquatic habitats other than a sparse series of ephemeral pools along what is appropriately called Dry Creek. Consequently, Dry Creek support very little in the way of aquatic habitat and does not support major occurrences of macrophytes, or fish habitat.

The Project will result in the clearance of approximately 9.4 hectares of Hunter Floodplain Red Gum Woodland. The drawdown of the Hunter River alluvial aquifer has the potential to impact terrestrial groundwater dependent ecosystems in the floodplain. However, the Project is not considered likely to pose a direct threat to any stygofauna community that may be present in the groundwater.

The proponent will enhance the areas of Dry Creek to be retained to the south of the Project and north of the Bengalla Lind road and also adjacent to the Hunter River and will include the planting of the regionally endangered River Red Gum.

In addition, Bengalla Mining Company will undertake Biodiversity Offsetting in accordance with the proposed 'Upper Hunter Strategic Assessment' process. Bengalla will provide a financial contribution to the 'Upper Hunter Offset Fund' to compensate for the removal of 950 hectares of vegetation, including 881 hectares of native vegetation. Upon finalisation of an acceptable 'Upper Hunter Strategic Assessment' process, Bengalla will recalculate the credit requirements for the Project in consultation with relevant regulators and contribute the commensurate financial contribution to the 'Upper Hunter Offset Fund'.

Traffic and Transport

A Traffic and Transport Impact Assessment was undertaken for the Project by consultants DC Traffic Engineering.

All access to the Project will be via the Bengalla Link Road and Bengalla Mine Access Road. The Bengalla Lind road will be realigned in approximately Year 15 to allow mining to progress to the west.

The Denman Road/Bengalla Link Road and Denman Road/Thomas Mitchell Drive intersections were found to be performing satisfactorily under existing traffic conditions. However, the New England Highway/Thomas Mitchell Drive intersection is currently performing poorly during the AM peak (6-7am). Mt Arthur Coal Mine is currently upgrading this intersection to a seagull configuration. Mt Arthur Coal Mine is also obligated to upgrade the Denman road/Thomas Mitchell Drive intersection to a seagull configuration by 2019.

The upgrade of the New England Highway/Thomas Mitchell Drive intersection will have been completed before the construction phase of the Project. The traffic modelling for the peak construction period has accounted for the upgrade to this intersection. All of the key intersections are expected to perform at a good or acceptable level of service during the construction phase.

The realignment of the Bengalla Link Road will increase the length of this travel route by approximately 900 metres. Assuming a travel speed of 90 kilometres/h this means travel times will increase by approximately 36 seconds.

The Project is predicted to increase the product coal output of the Bengalla Mine to approximately 12.3 Mtpa. As a result, the number of loaded train movements per year will increase to 1435 however this remains within existing approved levels. The number of daily train movements associated with the Bengalla Mine will increase to 10 (including unloaded inbound trains). The commencement of mining operations at the Mt Pleasant Project will generate an additional six train movements per day.

An assessment of the Project impacts to the existing rail network was also undertaken. When assessed against rail traffic forecast for the Muswellbrook Junction in 2016, rail traffic associated with the haulage of product coal from the Project will make up 9.8 per cent of the total volume of coal trains only. The area of significant influence of the Project on the wider rail network is therefore not significant, being considered to extend from Bengalla Mine rail loop to the Muswellbrook Junction.

Economics

The Project will result in the following economic benefits to the New South Wales economy:

- \$2408 million in annual direct and indirect regional output or business turnover;
- \$1223 million in annual direct and indirect regional value added;
- 4868 indirect jobs. The Project will result in the following economic benefits to the regional economy (Muswellbrook, Singleton and Upper Hunter Local Government Areas):
- \$1486 million in annual direct and indirect regional output or business turnover;

- \$789 million in annual direct and indirect regional value added;
- \$155 million in annual direct and indirect household income; and
- 1745 direct and indirect jobs.

The cessation of Bengalla Mine under the existing approval would lead to a reduction in economic activity in the region. Given the current uncertainty in the coal mining sector, it is important that government continue to effectively utilise the economic benefits, skills and expertise generated by Bengalla Mine to further strengthen and broaden the region's economic base.

Project Justification

During its operation, Bengalla Mining Company has been a major employer of the local community, employing 358 full time equivalent workers as at September 2011 of which 46 per cent are currently residing in the Muswellbrook LGA; and 89 per cent within the combined Muswellbrook, Upper Hunter and Singleton LGAs.

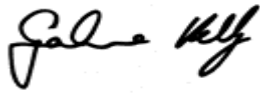
Approval of the Project will allow up to 316 Mtpa of ROM coal to continue to be mined at Bengalla Mine, ensuring security of employment for the existing workforce and continuity of socio-economic benefits currently experienced in the Hunter Region, New South Wales and Australia. The Project will facilitate the recovery of a valuable coal resource in an area that has long been set aside for mining by the NSW Government on land acquired by Bengalla Mining Company for the specific purpose of continuation of coal mining.

There are environmental costs which have been identified and which are capable of being acceptably managed by operational controls, land acquisition and management plans that would be established and adopted as approved by the Director-General of Planning and Infrastructure and other appropriate Government agencies and Authorities. Ecological and long term costs have been minimised and will be accounted for by management strategies to maintain and improve vegetation and ecological outcomes and values in the long term.

The Project's social and environmental impacts have been minimised as far as practicable by implementing all reasonable and feasible management and mitigation measures.

In Summation

The Union considers the Bengalla Continuation Project is consistent with the objectives of the EP&A Act, and therefore supports the proponent's application and asks that the consent be granted in the term sought.

A handwritten signature in black ink, appearing to read 'Grahame Kelly', is positioned above the printed name.

Grahame Kelly

DISTRICT SECRETARY