



**Mining and Energy** Division

## Review of Environmental Assessment

Boggabri Mine

Modification 3 Access, Stockpiling and In-pit

Fuel Storage

09\_0182 MOD 3

### Submission

Construction Forestry Mining and Energy

Union (Mining and Energy Division)

Northern Mining & NSW Energy District

November 2013

On 17 October 2013 Boggabri Coal Mine Pty Ltd applied to the Minister, Department of Planning seeking approval for amendments to the conceptual infrastructure layout for which approval was originally issued. This Project is sought under Section 75W of the EP&A Act, 1979.

The Director General made the Environmental Assessment publicly available on the 12 November 2013 at the DP & I Information Centre Sydney, Narrabri Shire Council and Nature Conservation Council.

The Union is pleased to take the opportunity to comment on the Boggabri Modification 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 Boggabri facility is located approximately 15 kilometres north-east of Boggabri and is wholly within the State's Northern District coalfields.

The Union is familiar with the Boggabri 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 this application for amendments to the infrastructure layout at the Boggabri Mine as proposed.

### **Project Overview**

Following the granting of Project Approval 09\_0182, Boggabri Coal conducted detailed infrastructure design studies. These studies have identified the need for amendments to the conceptual infrastructure layout for which approval was originally issued. The following amendments are required:

- Construction of permanent mine access from the Kamilaroi Highway;
- Temporary storage of processed mine overburden material at the existing Rock Quarry and the reuse of this material during the construction of the rail spur embankments;
- Reuse of the existing Daisymede laydown compound; and
- The use of temporary in-pit fuel storage facilities.

### **Stake Holder Engagement**

The stakeholder engagement program for the Modification included consultation with Local, State and Federal government agencies, neighbouring land owners and industries.

To determine the potential environmental and social impacts of the Modification, assessments were undertaken in relation to air quality, noise, ecology, Aboriginal archaeology, European heritage, surface water, waste and hazardous materials and socio-economic aspects.

Given the scale and nature of the Modification, Boggabri Coal will be capable of conducting the activities proposed under this Modification in accordance with the conditions of Project Approval 09\_0182 and the management plans implemented thereafter.

Further to the conditions of Project Approval 09\_0182, Boggabri Coal commits to a range of management and mitigation measures, as stated in this Environmental Assessment, to ensure that the Modification's environmental and social impacts are minimised.

Various mechanisms will be implemented to ensure the effective ongoing engagement with stakeholders during the life of the Modification, including:

- Rest stop project information signage located on the Kamilaroi Highway;
- Regular consultation with neighbouring land owners and industry;
- Updates to the Boggabri CCC;
- Updates to the Boggabri Coal website;
- Distribution of regular community newsletters; and
- Preparation and distribution of Annual Review for Boggabri Coal Mine, including activities undertaken for the Modification.

### **Kamilaroi Highway Mine Access**

The Modification involves a change to the method of access to Boggabri Coal Mine for both the construction and operational workforce. Under PA 09\_0182, construction personnel are approved to access the site via Therribri Road, Manilla Road and Leard Forest Road.

During the pre-construction design phase of the Modification, it was apparent that an alternate access would be required to facilitate construction, particularly for the section of the approved Boggabri Rail Spur to the west of the Kamilaroi Highway.

Given the existing 42.5t load limit restriction placed on the 'Iron Bridge' over the Namoi River on Manilla Road and concerns associated with future access arrangements for mine traffic (in particular, oversize and over mass vehicles and their associated issues with the use of Hoads Lane, Braymont Road and Barbers Lagoon Road), mine access via the Kamilaroi Highway is proposed as an alternative site access route. Although some oversize vehicles may have enough clearance to use the existing bridge, the road geometry of the approaches and associated load limit render it unsuitable.

To facilitate the alternative mine access arrangements, Boggabri Coal proposes the construction of two access roads linking the private haul road to the Kamilaroi Highway. These proposed access roads will provide safe left-turn access and egress from the Kamilaroi Highway onto the private haul road while preventing right turn movements across the existing through lanes.

During construction of the Boggabri Rail Spur, it is anticipated that a significant proportion of construction traffic (including heavy vehicles) will use the proposed left in / left out intersections to access the site, including:

- Pre-approved construction related heavy vehicles associated with oversize and over mass vehicles;
- Pre-approved construction related light vehicles suitable for use on construction sites (i.e. vehicles that are certified for use on the respective construction sites);
- Operational heavy vehicles that either exceed 42.5 t or are oversize;
- Deliveries associated with the Boggabri Rail Spur; and
- Major deliveries associated with the CHPP.

Once coal haulage to the existing rail loadout facility via the private haul road has ceased (following commissioning of the Boggabri Rail Spur approved under PA 09\_0182), the Kamilaroi Highway access roads will be used on a permanent basis as the primary site access for the operational workforce and preferred heavy vehicle route to the mine site.

This strategy is consistent with requests outlined by stakeholders in their submissions on the Boggabri EA, in particular the Maules Creek Community Council which requested:

*“At the completion of the proposed rail loop Boggabri Coal’s existing private haul road will become the only heavy vehicle access route to the mine and controls at the intersections of the Leard Forest Road and Therribri Road will be changed to give priority to the public roads, with mining traffic not having right of way. Access to the Private Haul Road will be provided by Boggabri Coal at the Kamilaroi Highway to the satisfaction of the Roads and Traffic Authority.”*

The construction of the Kamilaroi Highway access routes will require a total of 25.4 ha of disturbance outside the approved Project Boundary (including exotic grassland). Of this, 24.3 ha are located within the Namoi River Offset Area as described in the Boggabri EA.

### **Rock Quarry Stockpile**

Of the total volume of overburden material to be processed at the crushing and screening area in the Mine Infrastructure Area (MIA) for use as fill during rail spur embankment construction activities, approximately 180,000 t will be stockpiled at the highly disturbed Rock Quarry located to the west of the Kamilaroi Highway. Some fill materials have already been processed and stockpiled at the Rock Quarry in this regard. The additional processed material will be transported via the existing private haul road and stockpiled at the Rock Quarry for use during the construction of the Boggabri Rail Spur. The Rock Quarry will be rehabilitated following extraction of the fill material.

The Rock Quarry will require a total of 4.3 ha of disturbance outside the approved Project Boundary. This area has previously been disturbed and does not support any native vegetation. This entire disturbance is located within the Namoi River Offset Area described in the Boggabri EA.

### **Daisymede Laydown Compound**

The reuse of the existing Daisymede laydown compound located to the south of the private haul road is proposed to support the mining operations approved in the Boggabri EA. The existing Daisymede laydown compound has previously been cleared. The existing hardstand area of the compound is proposed as a laydown area for vehicle storage, and the stockpiling and use of materials and/or equipment during both the construction and operational phases of the Project.

The reuse of the existing Daisymede laydown compound will require 17.9 ha of disturbance inside of the approved Project Boundary. However, this area has previously been disturbed and does not support any native vegetation. This entire disturbance is located within the Namoi River Offset Area described in the Boggabri EA.

As noted above, no vegetation clearing is required to enable the reuse of the existing Daisymede laydown compound as the area has been previously cleared.

### **Temporary Fuel Storage**

The Boggabri EA outlined the requirement for additional transport and storage of diesel for the continued operations of Boggabri Mine.

Subsequent to this, Boggabri Coal has identified the need to use temporary in-pit fuel storage facilities to house and dispense diesel, oils and lubricants which are required for day to day operations. Four temporary fuel storage facilities with 67,000L capacity each are proposed to be used throughout Boggabri Mine at strategic locations along haulage runs to optimise the efficiency and utilisation of the existing fleet.

### **Air Quality/Greenhouse Gas**

An air quality and greenhouse gas impact assessment was undertaken by Pacific Environment for the Modification.

The total additional emissions that may be associated with the activities proposed for the Modification were assessed as 93,630 kilograms per/year. In comparison to the air quality modelling scenarios adopted for the Year 5 mine plan as per the Boggabri EA, the predicted addition equates to an approximate 1.4% increase in total emissions to the 'rail spur' scenario, and a 1.3% increase when compared with the 'road haulage' scenario. In light of the short term nature of the Modification, the predicted addition in total emissions will have a negligible difference to the predicted impacts, being less than 5% of the levels assessed in the Boggabri EA for Year 5.

### **Noise**

A noise impact assessment was undertaken by Bridges Acoustics for the Modification.

### ***Kamilaroi Highway Mine Access***

Worst case construction noise levels generated during the development of the proposed mine access intersections are primarily associated with bulk earthworks. In assessing the construction noise from the Modification, a total sound power level of 114 LAeq, 15min was used, which assumes that the typical construction equipment is operating simultaneously within the areas proposed for the intersections. While the total fleet may be spread over both road construction sites, this assessment assumes a worst case situation with the entire fleet concentrated within each site with no topographical or other shielding.

The predicted construction noise levels associated with the Modification will occur during normal daylight hours of 7:00 am to 6:00 pm Monday to Friday and 8:00 am to 1:00 pm on Saturday (excluding public holidays). Construction work required outside these standard hours would be subject to an Out of Hours Work protocol as specified in Schedule 3, Condition 2 of PA 09\_0182.

Construction related traffic will primarily access the construction sites via the Kamilaroi Highway and therefore construction traffic noise issues are unlikely to occur at any receiver.

Operational noise from coal trucks travelling along the private haul road was considered in the Boggabri EA, assuming up to seven trucks operated along the road simultaneously to produce a combined truck sound power level of up to 120 decibels (A-weighted) (dBA). As light vehicles will not use the private haul road until the rail spur is constructed (with the exception of construction vehicles pre-approved to do so), the worst case noise levels associated with the haulage of product coal on the private haul road will not coincide with worst case traffic noise generated by the revised access arrangements. This will result in operational traffic noise levels which are:

- Similar to the coal truck noise levels calculated in the Boggabri EA during the shift change periods, totalling approximately 2 hours (hr) in each 24 hrs. The noise impacts predicted in the Boggabri EA, which include noise from coal haulage trucks, therefore represent these maximum noise level periods; and
- Substantially lower than the coal truck noise levels predicted in the Boggabri EA during the remaining period of the day.

Noise levels from the proposed mine access intersections will therefore remain within the currently approved operational noise levels from the private haul road as assessed in the Boggabri EA.

Cumulative noise levels, from the combined operation of the Kamilaroi Highway mine access intersections and rail spur, will occur intermittently during the 15 minute periods with significant traffic only expected to occur during shift change periods. While train noise may occur simultaneously with peak traffic noise, such an occurrence will not occur regularly.

### ***Rock Quarry Construction Stockpile***

The temporary stockpiling of processed overburden at the Rock Quarry is located approximately 2,500 m from the nearest privately owned residence (Receiver 27). This material will be reused during construction of the Boggabri Rail Spur.

As the material will be transported from the Rock Quarry by truck and dog / excavators or scrapers, no increase in noise above that generated by approved coal haulage activities will occur at any receiver.

A dozer operating within the Rock Quarry, if required for consolidation of the stockpile, will operate only during the day and will therefore produce a maximum noise level of 35 LAeq, 15min at any privately owned receiver, which is below the construction noise criteria specified in PA 09\_0182.

Reuse of the processed overburden material will require a loader operating within the Rock Quarry to load the material into truck and dog / excavators or scrapers, which will then transport

the material along the Boggabri Rail Spur alignment to form the required embankments. Given that the Boggabri EA considered rail spur construction noise levels from a bulk earthworks fleet, including trucks and scrapers, vehicle movements to transport the stockpiled material from the Rock Quarry for use in construction of the rail spur have been adequately assessed and no additional construction noise is expected to occur at any receiver.

#### ***Reuse of the Daisymede Laydown Compound***

The Daisymede laydown compound is located adjacent to the private haul road approximately 450 m east of the Namoi River and will be used to store vehicles and materials during the construction and operational phases of the Modification. Nearest receivers to the compound are Receiver 23 (which is derelict and not occupied) and Receiver 27 located approximately 1,000 m and 1,400 m, respectively, to the south.

Intermittent vehicle movements within the laydown compound will produce a similar noise level at each of the closest receivers as a coal haul truck travelling along the private haul road. Occasional use of a mobile crane to transfer materials or a front end loader to load bulk materials into trucks, during daytime construction hours, will produce a noise level up to 37 LAeq,15min at the closest receivers which is well within the construction noise criteria at all receivers. Noise levels associated with the Daisymede laydown compound are therefore expected to be acceptable at all receivers.

Limited traffic will access the Daisymede laydown compound via either the private haul road or Therribri Road. Traffic noise levels associated with these limited vehicle movements, which are unlikely to exceed four vehicle movements per day or two vehicle movements per hour, will not contribute significant traffic noise or exceed relevant traffic noise criteria at any receiver.

#### ***Temporary Fuel Storage Facilities***

These temporary facilities will be located in-pit and will not result in any additional noise impacts.

#### ***Ecology***

A biodiversity impact assessment was undertaken by Parsons Brinkerhoff (2010a) for the Boggabri EA.

The Modification will have an impact on fauna habitats with the removal or modification of approximately 14.0 ha of native vegetation and habitat (including 13.3 ha of native vegetation outside the previously approved Project Boundary), including up to six hollow-bearing trees, which will be removed for the construction of the Kamilaroi Highway mine access routes. Some of these hollow-bearing trees may be retained; however, they have been included in the impact assessments as a precautionary measure.

Significance assessments have been completed in accordance with the TSC Act and EPBC Act guidelines for the threatened communities that occur or have with the potential to occur within the Modification Areas. The significance assessments concluded that the incremental increase in habitat loss associated with the proposed activities is unlikely to result in a significant increase to the ecological impacts predicted in the Boggabri EA.

No threatened flora or fauna species were recorded within the Modification Areas. However, a number was considered to have the potential to occur in these impacted areas.

Significance assessments were completed for all threatened species with the potential to occur in areas proposed to be impacted for the Modification. These assessments found that the

impacts of the Modification were unlikely to result in additional impacts to those assessed in the Boggabri EA.

## **Traffic**

A traffic impact assessment was undertaken by Constructive Solutions for the Modification.

### **Construction of the Kamilaroi Highway Access Intersections**

The proposed intersections with the Kamilaroi Highway have been designed to facilitate widening of the highway, the inclusion of safety wire rope barriers and the development of auxiliary left lanes and acceleration lanes on each side of the highway. The construction duration for these intersections will be approximately eight to ten weeks, weather permitting. Short term construction activities for the proposed access intersections, which will require a reduction to one lane traffic on the Kamilaroi Highway include:

- Placement of an asphalt overlay;
- Bituminous sealing (as required); and
- Installation of the wire rope barriers.

### **Construction and Operational Traffic on the Kamilaroi Highway Access Intersections**

The use of the private haul road following construction of the proposed intersections with the Kamilaroi Highway during the construction phase is generally considered to be a positive approach to traffic management in comparison to the approved mine access arrangements under PA 09\_0182.

As noted above, during construction of the Boggabri Rail Spur, it is anticipated that a significant proportion of all construction traffic (including heavy vehicles) will use the proposed left-in / left-out intersections to access the site. Any other light or heavy vehicles utilising the private haul road will need to be pre-approved by Boggabri Coal.

The effective capacity of the Kamilaroi Highway and the proposed intersections are considered to exceed the approved capacity required during the construction and operational phases of the Boggabri Coal Project, even during shift changes, which will result in significant increases in vehicle numbers over a short peak period.

In addition, both merging and diverging traffic from the proposed access roads will be able to enter and exit the travel lanes of the Kamilaroi Highway at speeds commensurate with that as determined in Austroads (2010). Restricting vehicles from undertaking right turn movements from the Kamilaroi Highway (with the provision of wire rope barriers) when entering and exiting the mine will also ensure that no slow moving vehicles cross the existing travel lanes of the Highway. Boggabri Coal will install signage at appropriate locations to reinforce the appropriate access routes and discourage any use of restricted roads. Boggabri Coal will work closely with NSC and RMS in this regard.

To ensure that the new access intersections are used safely and efficiently, specific procedures will be established so that drivers are familiar with the traffic arrangements on the private haul road, particularly the associated intersections with the Kamilaroi Highway and Therribri Road.

### **Operational Traffic on the Private Haul Road**

The private haul road (currently used for the haulage of product coal to the existing Boggabri Coal Mine train load out) operates under strict provisions governed by a Mine Vehicle Permit



issued by RMS, which include arrangements for the control and management of traffic flows at the intersection of the private haul road and Therribri Road.

Background traffic volumes for non-Project traffic is 79 vehicles per day on Therribri Road and traffic using Therribri Road following construction of the Kamilaroi Highway access intersections and approved rail spur will continue to give way to traffic on the private haul road.

Once the Boggabri Rail Spur is operational, coal haulage vehicles will not need to operate on the private haul road. Given the change in traffic types from the current coal haulage trucks to the 'road registered' vehicles proposed for the construction and operational phases of the Boggabri Coal Project, an increased travel speed through the intersection for vehicles accessing the mine may also be appropriate.

Coal haulage vehicles are currently required to reduce speed to 20 km/hr while travelling through the intersection. This requirement is primarily due to the significant braking distance of the coal haulage vehicles even at low speeds. Once the rail spur is operational coal haulage vehicles will not need to operate on the private haul road. Furthermore, all vehicles using the private haul road to access the mine from the Kamilaroi Highway will be road registered vehicles.

Given the change in traffic types, an increased travel speed of 40 km/hr for vehicles travelling through the intersection is appropriate, along with a maximum speed of 80 km/hr elsewhere along the private haul road. Following construction of the Boggabri Rail Spur, there will be two at-grade rail crossing with the private haul road. This is likely to require some localised roadwork's to improve the respective road approaches.

### **Reduction in Traffic Impacts to other Public Roads**

The construction of the proposed Kamilaroi Highway mine access intersections and the use of these sections by the Boggabri Coal Mine workforce may result in a significant reduction of up to 500 one way movements per day on key surrounding public roads and intersections during full operations.

Use of the alternate access proposed for the Modification will reduce impacts on the following intersections:

- Manilla Road and the Kamilaroi Highway;
- Manilla Road, including the 'Iron Bridge' and its intersection with Therribri Road; and
- Leard Forest Road and the associated intersections along its length.

### **Aboriginal/Non Aboriginal Heritage**

A heritage impact assessment was undertaken by Insite Heritage for the Modification.

No Aboriginal or non-Aboriginal archaeological or cultural heritage sites were identified within the areas proposed to be impacted by the Modification.

## **Surface Water**

A surface water impact assessment was undertaken by Parsons Brinkerhoff (2010b) for the Boggabri EA. Hansen Bailey has undertaken a review of the potential surface water impacts in the context of the activities proposed for the Modification.

The Modification has the potential to impact on surface water resources via contaminated and dirty water runoff from construction areas, changes to the water balance and increased flooding afflux along the Namoi River.

All construction activities associated with the Modification will be conducted in accordance with the procedures and mitigation measures outlined in Boggabri Coal's approved CEMP. This includes ensuring that dirty, clean and contaminated water is separated and treated accordingly and all dams are sized in accordance with *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004).

The northern Kamilaroi Highway mine access route has been designed to ensure that all drainage is diverted to an existing dam with sufficient capacity, to ensure no standing water on the road formation. Culverts will also be installed, where relevant, along the mine access routes to ensure that existing small surface flows are maintained.

In consideration of the aforementioned, the Modification will not have any material impacts on surface water resources and are consistent with the impacts presented and approved in the Boggabri EA.

## **Project Justification**

Boggabri Coal has approval under Part 3A of the EP&A Act to undertake the Boggabri Coal Project as described in the Boggabri EA. Since the granting of PA 09\_0182, Boggabri Coal has undertaken detailed design of the infrastructure required for the Project. This detailed design work has determined that operational efficiency can be improved through alterations to the conceptual infrastructure locations and alignments described in the Boggabri EA. The Modification will ensure that the approval is consistent with the final design scope.

The social and economic benefits provided by the Boggabri Coal Project were described in the Boggabri EA. The Boggabri EA demonstrated that the Project is consistent with the objects of the EP&A Act and the principles of Ecologically Sustainable Development. This Modification will not alter these conclusions.

The Modification will improve operational efficiency, maximising the economic benefits derived from the development of the land. The Modification will enable Boggabri Coal Mine to continue to satisfy the following objects of the EP&A Act:

- The proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment; and
- The promotion and co-ordination of the orderly and economic use and development of land.

Each of the noise and air quality impact assessments completed for this Modification indicate that impact levels associated with the activities proposed will have a minor and acceptable effect during construction and operation at all privately owned receivers. No additional air quality or

noise mitigation measures are required to those proposed in the Boggabri EA to facilitate the Modification.

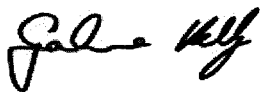
The Modification will require a minor additional disturbance of 47.6 ha to that approved in the Boggabri EA. Of this, 14.0 ha has been classified as native vegetation, of which 2.8 ha is listed as an EEC under the TSC Act.

The proposed change to the mine site access arrangement will reduce impacts on the local road network by minimising increases in traffic movements on Therribri Road, Manilla Road and Leard Forest Road. It will enable the construction and use of a superior, permanent site access off the Kamilaroi Highway. This strategy is consistent with requests outlined by stakeholders in their submissions on the Boggabri EA. The Modification will not impact on known Aboriginal sites and not require any additional management to that described in the Boggabri EA.

### **In Summation**

Based on the assessment of potential environmental impacts which has been multi-disciplinary and involved consultation with the DP&I and other relevant stakeholders, the Boggabri Coal Mine Modification is anticipated to pose negligible additional environmental impacts beyond those already approved under 09\_0182.

The Union considers that on balance, this Project is consistent with currently approved Development Consent objectives of the EP&A Act, and therefore supports the proponent's application.



**Grahame Kelly**  
**DISTRICT SECRETARY**