



Review of Environmental Assessment

## **Mannering Colliery – Modification 2**

Submission

Construction, Forestry, Mining & Energy Union  
(Mining and Energy Division)  
Northern Mining & NSW Energy District

June 2014

On 24 April 2014, Centennial Mannering Pty Limited applied to the Minister, Department of Planning seeking approval to modify MP06-0311. This Project is sought under Section 75W of the EP&A Act, 1979.

A separate application to modify Chain Valley Colliery's development consent SSD-5465 has been lodged under section 96 of the EP&A Act to enable construction of the underground linkage and should be assessed concurrently with this application.

The Director General made the Environmental Assessment publicly available on the 22 May 2014 and the opportunity for public submissions is available.

The Union is pleased to take the opportunity to comment on the Mannering Colliery's Modification 2 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 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 Mannering Colliery is located approximately 1.1 km south of Chain Valley Colliery's pit top area is wholly within the State's Northern District Coalfields.

The Union is familiar with these facilities 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 to enable coal from the Chain Valley Colliery to be transferred to Vales Point Power Station via the Mannering Colliery conveyor system as proposed.

### **Project Overview**

- the development and use of up to four first working headings within the Fassifern Seam to connect the Mannering Colliery (MC) and Chain Valley Colliery (CVC);
- the use of existing MC infrastructure to transport coal from the CVC underground workings to the Vales Point Power Station at a rate not greater than 1.1 Mtpa (as currently approved under MP06\_0311).
- the construction of the underground linkage will necessitate a minor adjustment to the project approval and development consent boundaries for MC and CVC as identified in MP06\_0311 and SSD-5465, respectively. All other components of the MC, as approved under MP06\_0311, will remain unchanged.

### **Underground linkage**

The construction of an underground linkage between the collieries will be completed by the driveage of headings (roadways) that will be developed between the southern extents of Fassifern Seam workings at the MC north-east for approximately 1.6 km to join Fassifern Seam

workings at the CVC. Initially, two roadways will be constructed with the future development of up to another two roadways to occur to enable increased ventilation flows between the two collieries.

Of the two roadways to be developed initially, one will be used for a belt system connecting the MC belt system into the CVC belt system and the other for the movement of personnel and equipment between the two mines (i.e. a travel road). The development of two roadways initially also removes the high risk activity of single entry development, defined in the Coal Mine Health and Safety Regulation 2006 as *“development of a roadway or a drift for more than 200 m without the formation of an intersection”*.

The roadways will be constructed within the coal seam using a wide head continuous miner with the coal produced transferred from the continuous miner to shuttle cars and then onto a conveyor which will transport the coal to the surface facilities. Blocks of coal, or pillars, will be left in the roadways to maintain the stability of the roof. The main equipment to be used for construction of the headings (ie the continuous miner) is currently in use at Chain Valley Colliery, and would be available for the proposed work following the return of another continuous miner which is currently being overhauled. Construction of the underground linkage, including remedial works at the MC, will take approximately 12 months.

The underground linkage headings will be located at a cover depth of approximately 195 m and pass 22.5 m below existing first and second workings panels in the Great Northern Seam associated with historic mining at MC. The underground linkage will also pass beneath a section of the High Water Mark Subsidence Barrier and Subsidence Protection Barrier. Maximum vertical subsidence from the roadway development will not exceed 20 mm.

Following construction, any groundwater inflows to the roadways will drain to the CVC workings and be managed by the existing water management system. Water make is predicted to be negligible and, therefore, will have no measureable impact on CVC's existing water management system which is currently operating well within capacity. Ventilation management will likely involve maintaining segregation between the two mines through the installation of ventilation control devices at the CVC end of the underground linkage once the roadways have been constructed. The ventilation control devices will be designed to handle pressure changes from either direction. Gas concentration and ventilation (pressure and flow) monitoring will be undertaken within the underground linkage roadways. Further ventilation devices and monitoring may be required following completion of the ventilation modelling and detailed risk assessment, which will be completed prior to commencing development work. \_\_

The construction of the underground linkage will result in a minor adjustment to the MC's project approval boundary identified in MP06\_0311 extending it approximately 770 m to the north-east from the existing boundary limit to the foreshore adjacent to the VPPS where it is proposed to meet the amended CVC development consent boundary. The amended MC project approval boundary is also coincident with the boundaries of CCL 719 and ML 1052.

#### **Use of infrastructure for CVC product coal transportation**

Once the underground connection of the conveyor systems is established, a portion of ROM coal extracted from CVC (ie the volume to be delivered to VPPS) will be transported to the MC surface facilities via the drift conveyor where it will be crushed, screened and conveyed

to the existing 1,000 tonne product bin, consistent with the activities approved under MP06\_0311. It is noted that during periods when VPPS is unable to accept coal deliveries due to scheduled maintenance or conveyor break-downs, a small ROM coal stockpile with a capacity to hold up to 25,000 tonnes is available on-site. As was the case during prior MC operations, reclamation from the stockpile is undertaken using an excavator or front end loader to load the ROM hopper.

The underground linkage headings may be constructed from either the MC or CVC workings. During construction approximately 40 full time employees would be required at MC. Should the majority of the linkage headings be driven from CVC, a lower number would be required for remedial activities. Following completion, approximately 20 full time positions will be required at MC to maintain and operate the MC infrastructure to permit coal transport through the mine to VPPS. The number of CVC operational employees will not change, though the reduced truck transport will result in a reduction of up to nine full time contractor positions. Overall, however, there will be a net increase in employment.

The total rate of ROM coal transported to MC's surface facilities will not exceed 1.1 Mtpa (ie the currently approved limit of extraction under Schedule 2 Condition 6 of MP06\_0311).

All coal conveyed to the MC surface facilities will be transported by overland conveyor to the VPPS, consistent with Schedule 2 Condition 7 of MP06\_0311.

All other components of MC, as modified, will remain unchanged.

It is noted that MC has approval to operate until 31 March 2018. It is anticipated that this approval would be extended until at least 2022, which is the full term of the agreement between LakeCoal and Centennial for operation of MC. This extension would form part of a separate application which would be lodged prior to cessation of operations at MC.

### **Roadway configuration and location alternatives**

A number of roadway configuration and location alternatives were considered during the development of the preferred project. These included development of two roadways only and a number of alignments either to the north or south of the preferred route. The assessment of options considered:

- safety, including requirements under the Coal Mine Health and Safety Regulation 2006;
- geological constraints;
- the location of underground MC and CVC infrastructure and distance between mining areas; and
- the location of significant surface features including prescribed dams and VPPS exclusion zone.

The preferred configuration and alignment the subject of the current application represents the most appropriate balance between the above considerations.

## **Stakeholder engagement**

Community consultation for the MC is ongoing. Information specific to the proposed modification is presented on the MC website ([www.manneringmine.com.au](http://www.manneringmine.com.au)) and presentations related to the proposed modification were made to the MC CCC.

The MC CCC meetings during the development of the EA were held on 18 November 2013 and 11 February 2014. In the earlier meeting, LakeCoal representatives outlined its agreement with Centennial, described the proposed modification, its needs and matters being considered. A preliminary plan showing the proposed roadways connecting the two collieries was also shown. It is noted that a meeting was also held with CVC's CCC on the same day which covered the same information relating to the proposed modification. The meeting in February 2014 covered the modification in more detail including subsidence assessment results. No matters were raised by community representatives, Wyong Shire Council or Lake Macquarie City Council representatives during the CCC meetings.

The community will also be notified of the proposed modification through an advertisement placed in a local newspaper following lodgement and through the public exhibition process where community members will be invited to comment.

Due to potential subsidence impacts on surface features, consultation was undertaken with TransGrid and Delta Electricity. A meeting between LakeCoal and Delta Electricity to discuss the proposed modification was held on 22 January 2014. Items discussed at the meeting included the development in general, mine design, timing and exhibition requirements. Delta Electricity also identified a number of surface features, and provided specific details and locations of this infrastructure which enabled it to be incorporated into the subsidence assessment. Delta raised no major concerns in relation to the proposed modification. TransGrid was contacted by LakeCoal with detailed correspondence on the proposed modification provided on 14 January 2014. TransGrid confirmed receipt of the correspondence and no further comments on the proposed modification were received.

## **Subsidence**

The outcomes of the modelling undertaken by DGS indicate that vertical subsidence from the proposed underground linkage will range from 5 mm to 20 mm where first and second workings in the Great Northern Seam occur, respectively. When added to the predicted historic subsidence levels described above, total (cumulative) subsidence is predicted to range from 25 mm to 38 mm above areas of first workings and 113 mm to 126 mm above areas of second workings.

DGS predicts that vertical subsidence in the vicinity of the Sea grass Protection Barrier will increase by up to 5 mm, resulting in cumulative vertical subsidence with the areas of historic workings of up to 31 mm and that net and cumulative tilts are likely to be less than 0.2 mm/m at sensitive features, with curvatures less than 0.02 km<sup>-1</sup>, and strains less than 0.3 mm/m.

It is not clear at this stage whether the construction of some of the surface features occurred before or after the completion of the Great Northern Seam panels in the 1970s or during the period of subsidence development up to 1995 (at which time the final survey was undertaken). If the former is the case then the cumulative subsidence contours should be

adopted for impact assessment purposes. For surface features constructed after 1995, it is considered reasonable to assume the incremental subsidence contours for the proposed Fassifern Seam contours should be adopted for impact assessment purposes.

It is considered unlikely that, under both incremental and cumulative scenarios, the proposed first workings will impact upon the existing transmission towers, switchyard, treatment works, rigid pavement, underground power cables and all other surface infrastructure listed. It is noted, however, that minor cracking may develop in the hard stand areas and concrete slabs which would be readily repairable.

The change in subsidence levels from the proposed first workings is not predicted to adversely impact seagrasses, dry sclerophyll woodland or lake foreshore vegetation. A small portion of the proposed workings are located within the Notification Area for the Mannering Creek Ash Dam which is a prescribed dam under the *Dams Safety Act 1978*. Consultation with the DSC has been undertaken in this regard. The DSC noted that incursion was minor and impacts unlikely. The subsidence assessment will be provided for its consideration and it is noted that a separate approval will be required prior to undertaking any mining activities within the Notification Area.

Vertical subsidence as a result of the underground linkage development will range from 5 mm to 20 mm where first and second workings in the Great Northern Seam occur, respectively. This is commonly considered to be 'zero' subsidence. When considered together with subsidence already experienced from historic workings, the combined vertical subsidence levels range from a maximum of 38 mm to 126 mm.

A number of significant features are located above and within relative proximity to the underground linkage including the Lake Macquarie foreshore and high voltage transmission towers. The assessment concludes that the proposed modification will not adversely impact on these features.

A number of measures are proposed to confirm assessment results and minimise/negate the risks from subsidence.

### **Groundwater**

The most recent groundwater assessment for the MC was undertaken by GHD (2011) as part of the application to modify MP06\_0311. The assessment included development of a hydrogeological model of the Fassifern and Great Northern seam workings and a site water balance.

The assessment assumed a groundwater inflow rate of approximately 1.1 ML/day in 2011 and predicted that this will increase to 1.6 – 1.8 ML/day under the modification. Groundwater monitoring data for 2013 recorded an average inflow of 0.95 ML/day (ie while the MC was under care and maintenance). These dewatering rates are relatively consistent with historic rates and increased inflows are not expected until mining commences within the extension areas approved under the modification to MP06\_0311.

The underground link between the two collieries through a series of roadways represents a limited amount of additional first workings within the Fassifern Seam. Considering the low

permeability of the strata, the minimal additional predicted subsidence of 5 to 20 mm, the relatively small additional area to be mined and the narrow width (5.4 m) associated with the roadways, it is concluded that the additional groundwater inflow as a result of this proposed modification will be negligible and within the uncertainty margin of current estimates for the approved operations. The terrestrial alluvial aquifers are recharged by rainfall and hydraulically independent of the deeper Permian Coal aquifers. The proposed modification will not impact terrestrial alluvial aquifers.

The assessment identified eight licensed groundwater bores within a 3 km radius of the MC workings which are predominantly used for domestic and stock purposes. No alluvial bores were identified. Several groundwater dependent ecosystems (GDEs) were identified in the vicinity of the MC's lease area. The assessment found that the MC's operations were not likely to impact local users or GDEs and the construction of the underground linkage is anticipated to have negligible additional impacts

Based on the outcomes of the groundwater modelling undertaken for the approved MC operations, there will be negligible additional groundwater flows associated with the proposed underground linkage and negligible additional impact on the groundwater systems.

### **Other social and environmental aspects**

An assessment of the other environmental, social and economic aspects as a consequence of the proposed modification has been undertaken. This assessment is commensurate with the negligible levels of projected impacts arising from the proposed modification on each of these aspects.

No specific management measures regarding these aspects are warranted as a result of the proposed modification.

### **Surface water**

The surface water management system for the MC was most recently assessed as part of the application to modify MP06\_0311 (GHD 2011). Water entering the mine is passed through an extensive goaf system prior to being pumped to the pit top area where it is transferred to the sediment pond system or directly to licenced discharge point 1. Water is discharged at a licensed discharge point (EPL 191 LDP001) on Swindles Creek, a tributary of Lake Macquarie.

Water inflows to the underground linkage will be managed under CVC's water management system. Additionally, no above ground surface disturbance or alterations to surface infrastructure are proposed which could lead to changes in surface water flows. Therefore, the proposed modification will not have any impacts on surface water.

### **Biodiversity (terrestrial)**

The proposed modification does not involve any above ground surface disturbance and, therefore, no terrestrial biodiversity impacts are likely. The quality and volumes of mine water discharged under the proposed modification will not be changed. Therefore, no significant impacts on terrestrial ecology are anticipated.

### **Biodiversity (aquatic)**

Potential impacts on aquatic biodiversity can occur as a result of subsidence. The areas of

potential subsidence beneath the lake bed are located within CVC's lease boundary. Mapping of seagrass communities within this area has previously been undertaken for the CVC Mining Extension 1 Project (JSA Environmental 2013). A SPB has been adopted by LakeCoal to protect the seagrass beds of Lake Macquarie from any potential impacts from underground mining at CVC.

Vertical subsidence from the historic workings in the 1970s above the underground linkage in the vicinity of the SPB is predicted to have been a maximum of 26 mm. The 5 mm of subsidence predicted as a result of the proposed modification is within levels of natural variation and is highly unlikely to adversely impact seagrasses if present. Further, surveys conducted for this area recorded no seagrasses present.

There is moderate to high potential for 3 endangered marine species to occur above areas of predicted subsidence within Lake Macquarie including the Loggerhead and Green turtles and the seagrass *Posidonia australis*. These species are unlikely to be impacted by the proposed modification given the minimal subsidence predicted, limited potential for adverse impacts on seagrasses and the highly mobile nature of the turtle species.

As noted in the 'surface water' section above, mine water generated will be managed under CVC's water management system. Additionally, no above ground surface disturbance or alterations to surface infrastructure are proposed which could lead to changes in surface water flows. Therefore, detrimental impacts on the surrounding marine environment are not anticipated to occur.

### **Transport**

The MC currently transports all coal via conveyor to VPPS. No truck transport of coal is currently undertaken and there will not be any changes to coal transport due to the proposed modification. Traffic movements associated with deliveries of plant equipment for the underground linkage would be minimal.

Employment levels at MC will increase above care and maintenance levels; though will remain well below approved employment numbers. A number of upgrades at the Ruttleys Road intersection are required to be undertaken under Schedule 3, Condition 21 of MP06\_0311 which included the eight recommendations of a road safety audit prepared by Parsons Brinckerhoff in 2008. Completion of these upgrades was postponed whilst the MC was under care and maintenance. A review of the road safety audit recommendations has found that these have all been satisfied by road upgrade works undertaken in conjunction with the recent Wyong Shire Council resurfacing works to this section and the adjoining sections of Ruttleys Road.

Further, MP06\_0311 includes a commitment to upgrade the Ruttleys Road intersection to a type CHR intersection when employee levels exceed 130. This threshold will not be exceeded by either the construction or operational employment levels under the proposed modification. Therefore, no road upgrade works to Ruttleys Road are warranted due to the proposed modification.

### **Noise**

Noise emissions from the MC's operations are currently managed in accordance with a



Noise Monitoring Program which includes quarterly noise monitoring and operator attended surveys at 3 monitoring locations. Noise emissions, prior to the MC being placed under care and maintenance, were considered to be in compliance with the noise criteria specified in MP06\_0311 for all receiver locations (GSS Environmental 2012). Noise monitoring undertaken on behalf of LakeCoal in late 2013 (ie during care and maintenance) confirmed compliance at all monitoring locations.

The proposed modification will only involve additional operations underground and will not change any aspect of the surface operations or road traffic generation which have the potential to generate noise emissions at potentially sensitive receivers. Subject to the approval of this modification and the equivalent modification of the CVC approval, noise emissions at CVC will be reduced through the use of the MC's existing surface conveyor to transport coal to VPPS. Therefore, the proposed modification will result in a positive impact with respect to cumulative noise.

### **Air quality and greenhouse gases**

Air quality and greenhouse gas emissions from the MC are managed in accordance with an Air Quality Management Plan and a Greenhouse and Energy Efficiency Plan. The MC operates a network of five dust deposition gauges in accordance with its Air Quality Monitoring Program. Dust deposition, prior to the MC being placed under care and maintenance, were well below OEH's air quality criteria (GSS Environmental 2012) and continue to be so.

The proposed modification will only involve additional operations underground and will not increase plant and equipment types/numbers, coal movements or stockpiling. Further, dust and vehicle emissions from CVC will likely be reduced through the use of the MC's existing surface conveyor to transport coal to VPPS. Therefore, the proposed modification will result in a positive impact with respect to cumulative air quality. Greenhouse gas emissions associated with the construction of the underground linkage will be minimal and will be managed in accordance with the Greenhouse and Energy Efficiency Plan.

### **Heritage**

There will be no impacts on heritage associated with the proposed modification as no above ground surface disturbance is proposed. Land based subsidence is predicted to be less than 20 mm and will not occur beneath nearby Aboriginal or non-indigenous heritage items identified in heritage assessments which accompanied the application to modify MP06\_0311 (RPS 2011).

### **Visibility**

The proposed modification does not involve any additional above ground surface disturbance, new surface infrastructure nor intensification of activities. Therefore, the proposed modification will not result in additional visual impacts. Potential visual amenity and lighting impacts will continue to be managed in accordance with Schedule 3, Condition 19 of MP06\_0311.

### **Social and economic**

The proposed modification would result in employment at MC of 40 full time employees during construction of the linkage and 20 full time employees during its operation, which is

well within the approved 170 employee workforce for MC. This additional employment would also compensate for the loss of up to nine full time contractor positions at CVC. Approval of the proposed modification will also enhance the economic viability of CVC. Continued operation of CVC has positive socio- economic outcomes associated with revenue contributions and community support.

### **Conclusion**

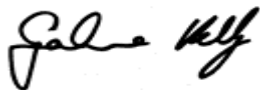
LakeCoal is seeking approval to develop an underground linkage between CVC and the MC, which LakeCoal has an agreement to operate until 2022, and use existing infrastructure to transport coal from its underground workings to the VPPS. All other components of the MC, as approved under MP06\_0311, will remain unchanged.

The proposed first workings have been designed to limit subsidence to less than 20 mm. When considered together with subsidence already experienced from historic workings, vertical subsidence levels range from a maximum of 38 mm to 126 mm. A number of significant features are located above and within relative proximity to the underground linkage including the Lake Macquarie foreshore and high voltage transmission towers. The assessment concludes that the proposed modification will not adversely impact these features. Notwithstanding, a number of measures are proposed to minimise/negate the risks from subsidence.

The modification is a minor alteration to the approved MC operations which will result in improved amenity outcomes, operational cost savings and additional employment that can be achieved with little to no adverse environmental impact and, as substantiated in this chapter, is aligned with the principles of ESD.

### **In Summation**

The Union considers that this Modification is consistent with currently approved Development Consent objectives of the EP&A Act, and therefore supports the proponent's applications. We ask the modification be granted in the form sought.

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

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