



ULAN COAL MINES LIMITED

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The Director General
NSW Department of Planning
23-33 Bridge Street
SYDNEY NSW 2000

Submission Lodged via DP&I website

Dear Sir,

Re: Submission on the Moolarben Coal Project Stage 2 Preferred Project Report

We provide the following submission on the Moolarben Coal Project Stage 2 Preferred Project Report (PPR). The focus of our submission is in relation to clarification of matters that relate to interactions with Ulan Coal Mines Limited (UCML) operations and the identification and assessment of cumulative impacts in relation to UCML.

Background to Ulan Coal Mines Limited

UCML is located approximately 1.5 kilometres from the village of Ulan, and immediately adjacent to the Moolarben Coal Project (MCP). Coal deposits were first worked at Ulan in the early 1920s and continued sporadically until the mining operations were expanded to include the open cut mine in 1982 and an underground longwall mine commencing in 1986. UCML's Ulan Coal – Continued Operations Project Approval dated 15 November 2010 allows for the export of 20 million tonnes per annum of product coal from the site. The project approval also allows mining operations to be undertaken on the site until 30 August 2031 and for the employment of up to 931 personnel for ongoing operations on site and 1084 during construction.

The Ulan Coal-Continued Operations Project includes an extension of open cut operations, as well as concurrently mining the Ulan No.3 Underground and Ulan West underground mining areas all within the Ulan Seam.

Since Project Approval was granted in 2010, UCML has continued mining within the No 3 underground mine, commenced the construction of the box cut for the Ulan West underground mine and has commenced preparation work for mining within the open cut area.

The Environmental Defenders Office (EDO) on behalf of the Hunter Environment Lobby undertook legal proceedings challenging the Minister for Planning's 2010 Project Approval. A hearing took place during June 2011 and judgment was handed down on 24 November 2011, which upheld the approval. The Court granted in principal approval subject to clarification of a number of conditions, which are yet to be completed.

The Moolarben Preferred Project Report – Overview

The Department of Planning (now the Department of Planning and Infrastructure – DP&I) issued Director General Requirements for the Moolarben Coal Project Stage 2 (MCP Stage 2) project on 11 September 2008. The MCP Stage 2 Environmental Assessment (EA) was placed on public exhibition between 18 March 2009 and 29 April 2009. Following public exhibition of the EA, the DP&I received 177 public and government authority submissions. The DP&I also sought independent technical reviews of the surface water (including water balance and creek design), groundwater, subsidence and rehabilitation aspects of the EA.

The Director- General of DP&I requested the MCP to prepare a Preferred Project Report (PPR) on 25 March 2010.

The PPR makes a number of modifications to the original proposal, with the key project changes being:

- A revised disturbance footprint and open cut mine sequence, including relocation of the Northern Out of Pit (OOP) emplacement area, to reduce impacts;
- Relocating Stage 2 Run-of-Mine (ROM) coal facilities adjacent to OC4 and relocated out of pit emplacement area;
- Replacing truck haulage of open cut ROM coal from OC4 to the Stage 1 ROM coal handling facilities with a dedicated overland conveyor located at the relocated Stage 2 ROM coal handling facility; and
- Relocating Stage 2 surface facilities and site access closer to the northern end of the open cut pit.

The impacts of the modified project are detailed in the PPR, which includes nine updated specialist technical assessments. These updated specialist technical assessments have been included as appendices to the PPR and replace in full the previous assessments. The PPR is on public exhibition between 31 January 2012 and 24 February 2012.

In total the MCP proposes to develop four open cut pits (OC1, OC2, OC3 and OC4) and three underground operations (UG1, UG2 and UG4) with a combined production of up to 17 Mtpa of run-of-mine (ROM) coal. Stage 2 consists of OC4, UG1 and UG2. The MCP also includes coal processing, coal transportation and other associated infrastructure. Stage 2 of the MCP will provide up to 220 construction and 120 additional full time jobs during operation (the MCP complex will provide up to 439 full time jobs during operation).

Issues for Consideration

Interaction with UCML Land Holdings

As identified in Figure 1 of the PPR, MCP proposes to conduct a number of mining and related activities on UCML owned land. A total of approximately 2400 hectares (approx 45%) of the MCP Stage 2 Project Area is located on land owned / leased by UCML. UCML and Moolarben Coal Mine (MCM) maintain current access agreements to allow MCM access to land associated within the Stage 1 project area and are currently in negotiations regarding access to UCML land which will be impacted by the Stage 2 project. However, it is important to note that at this stage no agreement has been reached regarding access to the UCML owned land that would be impacted by the project.

Our submission on the MCP has been developed in light of our intention to work with MCP for the mutual benefit of both parties. Having said this, we wish to express that the UCML land proposed to be developed by MCP is of great value to UCML and has potential future beneficial uses for UCML such as for salinity or biodiversity offsets, were it not to be developed by MCM.

For completeness, UCML notes that MCP has submitted mining lease applications in respect of the Stage 2 project. UCML has exercised its rights as a landholder and lodged objections to those mining lease applications insofar as they relate to certain UCML owned land. The objections are currently under consideration by DTIRIS.

Assumptions which relate to the Existing Air Quality and Noise Background Conditions and Cumulative Impacts Relating to UCML Operations

The following issues raised relate to the existing background assumptions used for the purposes of the air quality and noise assessments. In ensuring the baseline assumptions are accurate, the impacts associated with the MCP and the cumulative impacts from the MCP, Wilpinjong and UCML operations can be accurately identified.

Employment Levels

While the coal production volumes at the MCP (17 Mtpa ROM) and UCML (23 Mtpa ROM) are generally within the same order of magnitude, the maximum operational workforces are significantly different (i.e. MCP 439 and UCML 931). Given these two mines are similar operationally, we question the MCP estimated peak employee level.

For issues such as road traffic noise, traffic congestion, road maintenance/upgrade contributions and socio economic aspects employee numbers are one of the fundamental base line assumptions used to predict impacts. UCML's 2010 Project Approval imposes a financial burden on UCML to address its impact on these issues, some of which are to be apportioned between the MCP, Wilpinjong and UCML mines based on employee / traffic generation levels. It is therefore critical that the employee level is confirmed.

Air Quality

We note that PAE Holmes in conducting the air quality assessment for the MCP Stage 2, has assessed the cumulative impact of UCML's operations, through the inclusion of UCML's emissions via three volume sources located within the UCML mine project area (i.e. a simplified model of UCML operations) within the MCP air quality model. The locations as assigned by PAE Holmes however, do not appear to accurately spatially represent the location of UCML's actual operations or key dust sources. We question the accuracy of this approach and its suitability given its importance to understanding the interactions between the two mines and resolving a joint management strategy and / or commercial arrangements associated with apportioning costs associated with the implementation of mitigation measures or property acquisition costs.

We note that PAE Holmes prepared a comprehensive air quality model for the Ulan Coal – Continued Operations EA. The model predicted the air quality impact of UCML operations for a range of mine years (i.e. production levels) and associated activities (dust sources) at over 180 residential locations.

Given the complexity associated with the management of air quality impacts in the Ulan region and as many of residential locations modelled are common between the MCP and UCML, we ask that the cumulative air quality impact at the residential locations which are common between the MCP and UCML assessments be determined using the impacts as predicted in the Ulan Coal – Continued Operations EA, as it is reflective of UCML's actual operations.

The control of air quality and noise impacts as proposed by MCP relies heavily on industry best practice operational control. We trust that an appropriate monitoring network will be established by MCM to allow for the distinction between the MCP and other surrounding operations regarding the source of noise and dust emissions. The information from this monitoring program should also be included as part of the data sharing agreement currently being finalised by UCML and MCM to support the development of cumulative impact protocols between the mines.

Six mine plan years being years 2, 7, 12, 16, 19 and 24 have been modelled to assess the MCP air quality impacts. It is unclear how the MCP modelled years relate to that used in the Ulan Coal – Continued Operations EA or how they relate to Wilpinjong's and UCML's predicted overburden and coal production rates. We presume this has been addressed by adopting the estimated maximum value of TSP for the other mining operations.

As a major land holder that would be impacted by this project, UCML notes that the PPR provides no discussion as the extent of UCML land which is predicted to experience dust levels in excess of the project criteria. Without such information it may not be possible for UCML to complete negotiations regarding access to UCML land for MCP activities.

From the information provided it is not possible to identify the contribution of the Moolarben Stage 1, Stage 2, Wilpinjong and UCML mining operations for each receiver. This information is fundamental when developing a joint management strategy and / or commercial arrangements to address potential cumulative impacts.

Figure 12 in the PPR illustrates the predicted worst case air quality contours for the MCP. While the legend within Figure 12 notes the PM₁₀ Annual Average (30 µg/m³) as being a cumulative contour, it is unclear if this cumulative contour is in relation to Stage 1 and 2 of the MCP alone or if it also includes the Wilpinjong and UCML operations. Regardless, we question the cause of the PM₁₀ annual average contours located generally within the UCML project area, as they do not readily align with UCML's known major dust sources / operations. The northern PM₁₀ Annual Average contour for example within the UCML Project Area is located over undisturbed heavily vegetated land.

How UCML air quality impacts are considered in the cumulative assessment effects the predicted impacts (i.e. which mine or mines are responsible for the impact). Where the impact is due to the operation of more than one mine, a model which accurately reflects each mining operation is required to identify the contribution from each mine. Without such information it is not possible to confidently reach agreement on a joint management strategy and / or commercial arrangements associated with apportioning costs associated with the implementation of mitigation measures or property acquisition costs. Additionally without such information DP&I may not be able to condition the project appropriately.

Noise

UCML has expended considerable time and financial resources in developing a detailed noise model which is reflective of its operations through the inclusion of over 600 individual noise sources and the inclusion of over 180 residential locations which surround UCML operations. The model has been validated by comparing predictions against attended noise monitoring results, which were found to be within 1 – 2 dBA of the modelled predictions. This detailed model therefore allows UCML to accurately understand (model and predict) its noise impact on the surrounding residential locations.

In assessing the cumulative impact of UCML operations, we note that the Global Acoustic has considered noise from UCML's operations via the inclusion of an environmental noise model of UCML's CHPP area in the MCP noise model. Global Acoustics justify this approach by noting that the noise sources associated with the operation of the CHPP are considered to represent the greatest contribution to potential cumulative noise impacts from UCML. The assessment however provides no detail as to how the noise level for the CHPP was determined or in fact the noise level that has been assigned to the CHPP area by Global Acoustics. It is also unclear if the noise level assumed for the CHPP area is reflective of a 'worst case' scenario (i.e. maximum noise level).

UCML note the noise level experienced by an individual residential location is reflective of the noise source contributors at each residential location. The contributors at UCML are however not static nor are they limited to just the CHPP and / or the CHPP area. For example, the top five

ranked UCML noise contribution sources based on UCML's modelled operations at UCML numbered receiver 6, which is located to the south west of the UCML project area at the intersection of Cope and Highett roads are a dozer operating on the hub stockpile, the washery, a drill within the open cut, a coarse reject dump truck and a open cut dump truck. Whereas for UCML numbered receiver 93, which is located to the south of the UCML project area in Ulan Village, the top five ranked UCML noise contribution sources based on UCML modelled operations are the washery, a dozer on the underground Run of Mine stockpile, a stockpile reclaimer, a conveyor and the rotary breaker. While these receivers are located only approximately only 4 kilometres apart, the noise source contributions are distinctly different (i.e. only the noise contribution from the washery is common between these two receivers). Without knowing the potential noise source contributions which have been used by Global Acoustic to determine the noise level for the CHPP area, we question the accuracy in using the CHPP area noise level approach in assessing the cumulative noise level.

Given the complexity associated with the management of noise impacts in the Ulan region and the need to understand in detail the noise interactions between the MCP and UCML operations we ask that MCP revise the cumulative noise impact assessment in consultation with UCML for the residential locations which may be impacted by the MCP and UCML operations. It is essential that the cumulative impact assessment is based on the noise impacts as predicted in the Ulan Coal – Continued Operations EA.

A comprehensive understanding of the cumulative impact on each residential location is critical to the development of a joint management strategy and / or commercial arrangements associated with apportioning costs associated with the implementation of mitigation measures or property acquisition costs. This information will also further assist in enhancing the cumulative noise management protocol which UCML in consultation with MCM and WCM are developing. Additionally without such information DP&I may not be able to condition the project appropriately.

It is essential that the MCP project alone assessment is robust in order to have a comprehensive understanding of cumulative noise assessment and management. Whilst we haven't completed a full technical review of the MCP noise assessment we note the following issues that requires clarification:

- Figure 6 (Conceptual Year 7 Mine Plan) and 7 (Conceptual Year 12 Mine Plan) in the PPR show overburden emplacement activities being undertaken within OC2. Table 4.2 and Figures C.2 and C.3 of the noise impact assessment however do not include any noise sources in OC2 for these mine plan years and thus the potential impact of such activities has not been assessed for these years and therefore could under estimate the noise impact for these years. If the noise impacts have been underestimated, it is likely residential locations in the Ulan village area may experience additional noise impacts. Given the residential locations are already impacted by both the MCP and UCML operations it is critical to identify the proportional contribution of each mine, for the reasons as noted above.
- Page 11 of the Noise Impact assessment notes "A calibration of minus 3 dB has been adopted, and has been applied to all results for noise enhancing meteorology." It is questioned if 3dB should be added to all results for noise enhancing meteorology.

As a major land holder that would be impacted by this project, UCML notes that the PPR provides no discussion as the extent of UCML land which is predicted to experience noise levels in excess of the project criteria. UCML notes that its approved mine life is less than MCP's and expects that the sale of land and / or a residence which is exposed to noise levels in excess of the project criteria as part of any future mine closure process would be problematic. UCML seeks the inclusion of a condition in the Project Approval that in the event that UCML ceases mining prior to MCM, there is provision for the acquisition of land impacted by MCP to address this issue.

Groundwater

UCML has acknowledged that its historical operations have impacted the groundwater resources within the MCP area, primarily within the MCP UG4 area. UCML as part of its response to submissions report modelled the potential cumulative impact of the MCP UG4. As expected, the depressurisation of the groundwater extends up to eight kilometres beyond the MCP UG4 mine footprint (Umwelt 2010). This is approximately 4 kilometres more than that predicted for UCML's operations in isolation. Since mining operations at UCML are progressing to the north and west away from the MCP operations and the areas of UCML near UG4 are already fully dewatered (as at 2009), cumulative impacts across UCML operations are relatively minor (i.e. UCML's contribution to further depressurisation in the area surrounding UG4 would be minor).

The most obvious impacts associated with the MCP operations are extensions to the depressurisation of the groundwater resources to the north, east and south east of UG4, which contradicts RPS Aquaterra's findings in the PPR. To infer that the MCP will not also result in additional groundwater impacts is therefore misleading.

UCML has extensive experience and data relating to the interaction between underground mining and the local groundwater system, upon which the UCML groundwater assessment was based. We note that RPS Aquaterra has adopted different assumptions, for example depressurisation of the overlying strata to the surface will not occur due to proposed longwall panel width of 208 metres. This is not supported based on the investigations, evidence and experience at UCML.

In addition to the above model assumption UCML have identified a number of other fundamental differences, relating to hydraulic conductivity, permeability and subsidence interconnective cracking. It is presumed these fundamental differences may have resulted in the differences between the UCML and MCP findings (i.e. groundwater recovery rates / end of mine life piezometric surfaces). As such, UCML has commissioned Mackie Environmental Research to undertake a comprehensive technical review of the groundwater assessment to understand these differences and the interactions as noted by RPS Aquaterra. Subject to the findings of this review UCML requests the opportunity to provide a supplementary submission, to further clarify interactions between the MCP and UCML as it relates to potential groundwater impacts.

The PPR makes no comment on impacts to hard rock base flows (UCML would be interested in impact on the Goulburn River). The PPR notes additional base flow impacts to Goulburn River. However, it is not clear how the MCP define base flow (i.e. alluvial, hard rock or flow level in the river once a high flow event has passed).

The Groundwater Assessment undertaken by RPS Aquaterra for the PPR relies heavily on UCML data sources in 2008. UCML is committed to data sharing with MCM and therefore more current data is available in addition to the data provided to MCM in 2008.

It is critical for UCML to have a thorough understanding of the MCP groundwater model given the potential interactions with offsetting base flow impacts, determining responsibility for providing compensatory water supply (i.e. apportioning impacts and responsibilities to address such impacts) as well as ensuring the UCML groundwater model reflects the infield conditions and experiences.

It is without doubt that Stage 2 of the MCM will result in cumulative impacts which are in addition to that approved under UCML's 2010 Project Approval. In order to explicitly understand the potential cumulative interactions associated with the MCM, Wilpinjong and UCML mining operations it is imperative that the contribution from each operation are clearly identified, in addition to the proposed Stage 2 MCP and the existing impact from the operations are accurately reflected. Without this level of detail and robustness of the predictions it is not possible to confidently reach agreement on a joint management strategy and / or commercial

arrangements associated with apportioning costs associated with the implementation of mitigation measures or property acquisition costs, as required under UCML's 2010 Project Approval. Additionally without such information DP&I may not be able to condition the project appropriately.

Please do not hesitate to contact Jamie Lees (Environment & Community Manager) on Ph (02) 63725368 should you have any questions.

Yours Faithfully

A handwritten signature in black ink, appearing to read 'Dan Clifford', written in a cursive style.

Dan Clifford
General Manager
Ulan Coal Mines Limited