



# Moolarben Coal Mine Stage 2 Project and Stage 1 Modification 3

## Review Report

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The Moolarben Coal Mine Stage 2 Project and Stage 1 Modification 3 PAC Report©  
State of New South Wales through the NSW Planning Assessment Commission, 2014.

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## **Executive Summary**

The Moolarben Extension Project is a proposed extension of the existing Moolarben open-cut and underground coalmine located 40km northeast of Mudgee in the Mid-Western Regional Council Local Government Area. An expansion of its mining area to the east along with two additional underground mining operations and one large open cut pit are proposed, with approval sought to extract 16Mt of run-of-mine (ROM) coal annually over 24 years. The coal would be processed on-site using existing and new facilities and be transported by rail to the Port of Newcastle for shipment overseas.

The Proponent has three applications underway, the combined effect is that the Proponent is seeking to expand the existing open cut pits, open a substantial new extension area to the east of the existing mine and operate both mining stages as one integrated mining complex. While the Commission has considered each application individually, it is also mindful of the connections between the three applications and the implications each will have on the other.

The Minister for Planning and Infrastructure in correspondence dated 6 December 2013 requested the Planning Assessment Commission to review the Moolarben Extension Project and to conduct public hearings as part of this process. The Minister requested the Commission to review the merits of the project paying particular attention to the potential biodiversity impacts. The Chair of the Planning Assessment Commission constituted the Commission with Mr Brian Gilligan and Mr Garry Payne AM.

The Commission examined the documents referred to in the Terms of Reference, including Planning and Infrastructure's Preliminary Environmental Assessment Report in the Department's letter dated 4 February 2014. The Commission also received written submissions, held a public hearing, visited the site and surrounds and met with the Proponent, Moolarben Coal Mines Pty Ltd, Mid-Western Regional Council, the EPA and the Office of Environment and Heritage. The public hearing was held on 26 February 2014 at Mudgee Town Hall and 51 verbal representations were made. Following the public hearing the Commission put a series of formal requests for further information to the Proponent to which the Proponent responded.

Reviewing the merits of the project proposals for Stage 1, MOD 3 and Stage 2 at this phase of the assessment process involves comprehensive assessment, within the statutory framework, of the predicted benefits and predicted environmental impacts of the project. The review should also identify issues that the consent authority will need to consider carefully before making a determination, and whether they should be resolved prior to determination.

The benefits claimed for this project by the Proponent are extensive. They include: a net production benefit to Australia of \$120m, State Tax Revenues of \$54m and Commonwealth Royalties of \$98m, Commonwealth taxes of \$39m and an increase in the workforce of 120 at the site during operation (220 temporary jobs during construction).

There are a number of other potential benefits for a project proposal that must be considered within the statutory framework. They include whether the project is in close proximity to existing infrastructure, whether the project is related to any existing mine, and whether other industries are dependent on the development of the resource. The project satisfies these requirements, although dependence of other industries may be limited.

The residual impacts of the project cover a wide spectrum, but relatively few of them are of major concern. Those of major concern could be significant in determining whether development consent may be granted if left unresolved. The Commission considers that The Drip, impacts on biodiversity, water and noise are the most significant, but that aspects of impacts on air and final void and landform will need to be addressed before the project is submitted for determination.

The Commission's finding is that the draft consent conditions relating to coal production should be limited to reflect the Preferred Project Report, commitments relating to noise should be imposed as conditions and refinement of the Mine Plan to address the final land form and final void should be inserted. The Commission has provided alternative conditions in its recommendations.

The issue of biodiversity has been considered in detail (see Term of Reference 2). Biodiversity impacts were raised in submissions, in the public hearing and by the Office of Environment and Heritage. The Commission's findings on biodiversity are based in part on a detailed examination of the Proponent's claims concerning potentially significant impacts for the critically endangered White Box, Yellow Box and Blakely's Red Gum Woodland community along with a number of threatened woodland birds likely to be present in and around the Project Area. The Commission finds that the impacts could be significant. The Commission has recommended that significant improvements need to be achieved in the mitigation strategies.

Given the significant coal mining which is occurring in the region it would be desirable for mitigation strategies to be prepared addressing the environmental impacts. The strategies should include a Regional Biodiversity Strategy which sets out the long term framework for consistent and coordinated planning, management and monitoring of offset areas.

The Commission also identified the significant public concern associated with The Drip which is a significant local natural feature. The Commission expects that this issue will be resolved in the determination of MOD 9.

The other residual impacts considered important by the Commission include the risks posed by the final voids, the impacts on some receivers from noise and dust. These are discussed in the report and recommendations made for mitigation or management.

Overall the Commission considers that on the information currently available, the merits of the project require detailed evaluation against the criteria in s.79C of the *Environmental Planning and Assessment Act 1979*. The Commission considers that the residual impacts of the project can be reduced to a low level if the recommendations in this review report are adopted. If this occurs, and the relevant actions and/or commitments are in place prior to submission of the project for determination, it can be approved subject to conditions.

# Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>I</b>
<b>FIGURES.....</b>	<b>IV</b>
<b>GLOSSARY.....</b>	<b>V</b>
<b>1 INTRODUCTION AND TERMS OF REFERENCE.....</b>	<b>1</b>
<b>2 PROJECT DESCRIPTION .....</b>	<b>2</b>
2.1 BACKGROUND .....	2
2.2 CURRENT PROPOSAL.....	2
2.3 ASSOCIATED APPLICATIONS .....	3
<b>3 COMMISSION ACTIVITIES.....</b>	<b>4</b>
3.1 PUBLIC HEARING AND SUBMISSIONS .....	4
3.2 DOCUMENTS, MEETINGS& SITE INSPECTIONS.....	4
<b>4. THE DRIP .....</b>	<b>5</b>
<b>5 BIODIVERSITY .....</b>	<b>7</b>
5.1.1 Impacts.....	7
5.1.2 Regional Context.....	8
5.1.3 Impact Avoidance and Mitigation.....	9
5.1.4 Transparent Assessment of Losses and Gains.....	9
5.1.5 Proposed Offsets.....	9
5.1.6 Regional Biodiversity Strategy.....	10
5.1.7 Threatened Woodland Birds.....	11
5.1.8 Office of Environment and Heritage Request.....	12
<b>6 WATER .....</b>	<b>14</b>
<b>7 NOISE, DUST AND BLASTING .....</b>	<b>18</b>
7.1 AIR QUALITY.....	18
<b>8 OTHER ISSUES.....</b>	<b>21</b>
8.1 MINE PLAN.....	21
8.2 Production Levels.....	22
8.3 SUBSIDENCE.....	22
<b>9. CONCLUSION .....</b>	<b>23</b>
<b>10. RECOMMENDATIONS - CONSOLIDATED SUMMARY.....</b>	<b>24</b>
<b>REFERENCES.....</b>	<b>26</b>
<b>LIST OF APPENDICES.....</b>	<b>288</b>

## **Figures**

Figure 1 Site and Surrounds .....	5, 6
Figure 2: Local context of the valley floors to be mined and the elevated nature of the reserves.....	9

## Glossary

**Commission:** Planning Assessment Commission constituted for this review and public hearing, Ms Gabrielle Kibble AO (Chair), Mr Garry Payne AM and Mr Brian Gilligan.

**OEH:** Office of Environment and Heritage, formerly DECCW and now incorporating NSW Heritage Office, the latter also cited independent of OEH.

**Department of Planning and Infrastructure:** The Department of Planning and Environment formerly known as the Department of Planning and Infrastructure (the Agency).

**Director-General's Requirements:** Requirements provided by the Director-General of the Department for an environmental assessment or environmental impact statement.

**EA:** Environmental Assessment.

**EPA:** Environment Protection Authority.

**EP&A:** Environmental Planning and Assessment.

**LGA:** Local Government Area.

**Moolarben:** Moolarben Coal Mines Pty Limited, the Proponent.

**PAC:** Planning Assessment Commission.

**PM<sub>10</sub>:** Particulate matter with an aerodynamic diameter smaller than 10 micrometres.

**PM<sub>2.5</sub>:** Particulate matter with an aerodynamic diameter smaller than 2.5 micrometres

**The proponent:** The applicant under Part 3A of the EP&A Act 1979, in this report being Moolarben Coal Mines Pty Limited. 'Proponent' includes the proponent's EA consultants.

**The proposal:** The subject of the application under Part 3A of the EP&A Act 1979, in this report being the Moolarben Coal Mine Stage 2 project and associated Stage 1 Modification 3.

**Riparian Zone:** The area of land adjacent to a river or stream. It includes the riverbanks and land immediately adjacent to riverbanks.

**TOR:** Terms of Reference.

**TSC:** Threatened Species Conservation.

**TSP:** Total suspended particulate matter.

# 1 Introduction and Terms of Reference

On 6 December 2013 the Minister for Planning and Infrastructure, the Honourable Brad Hazzard MP issued a request to the Chair of the Planning Assessment Commission in relation to the Moolarben Coal Mine. The Minister's request was made under Section 23D of the *Environmental Planning and Assessment Act 1979* and Clauses 268R and 268V of the *Environmental Planning and Assessment Regulation 2000*. The terms of reference in the Minister's request are as follows:

1. Consider the Department of Planning and Infrastructure's preliminary assessment of the merits of both applications for Stage 2 of the Moolarben Coal Project, including the EA and PPR for the project, submissions, the response to submissions, and any other relevant information provided to the Department during the assessment process or the PAC during the review process;
2. Review the merits of Stage 2 of the Moolarben Coal Project, paying particular attention to the potential biodiversity impacts of the project;
3. Hold public hearings during the review as soon as practicable after receiving the Department of Planning and Infrastructure's preliminary assessment of the project; and
4. Submit its final report on the review to the Department of Planning and Infrastructure within one month of holding the public hearings, unless the Director-General of the Department of Planning and Infrastructure agrees otherwise.

The terms of reference are attached in Appendix 1.

The preliminary assessment was received by the Planning Assessment Commission on 5 February 2014. Ms Gabrielle Kibble AO chair of the Planning Assessment Commission constituted the Commission with Mr Brian Gilligan and Mr Garry Payne AM.

On 18 February 2014 the Commission advised the Director-General of Planning and Infrastructure that it would not be possible to complete the review within one month of holding the public hearings, but that the Commission would finish the review as soon as it could.



## 2 Project Description

### 2.1 Background

Moolarben Coal Mine is an existing open cut coal mine near Ulan in the Mid-Western Local Government Area. The coal mine was approved in 2007, following an Independent Hearing and Assessment Panel's consideration of the application. The approval allows for:

- the mining of three open cut pits, and one underground domain over 21 years;
- extraction of up to 12 million tonnes of run of mine coal a year, comprising 8 million tonnes from the open cut operations and 4 million tonnes for the underground mining domains;
- production of 10 million tonnes of product coal a year; and
- transport of the coal offsite by rail only (*sourced from Mod 9 conditions*).

Mining commenced in 2010 (P&I, 2014A). Open cut mining of pit 1 is well underway, and at the time of inspection (February 2014), preparations for mining in pit 2 had commenced. Although approved, pit 3 and the underground domain are yet to be mined.

The Moolarben mine is part of a broader mining complex, comprising the Ulan coal mine to the northwest and Wilpinjong coal mine to the south east. The mines are approximately 40 km from Mudgee and 20 km from Gulgong. The small village of Ulan is south of the Ulan Mine and west of Moolarben. The small village of Wollar is east of the mining complex. The Goulburn River National Park is to the north east of the mine complex and the Munghorn Gap Nature Reserve is south of the mines. Coal from all three mines is transported by rail, along the Gulgong to Sandy-Hollow line.

### 2.2 Current Proposal

The Moolarben Coal Mine is now seeking a significant extension to its existing mining operation. The proponent is seeking to mine an area directly to the east of the approved open cut pits 1 and 2. Both underground and open cut mining extraction methods are proposed. Up to 16 million tonnes of run of mine coal would be extracted from this stage 2 extension area each year, with 4 million tonnes per year from the underground mining operation and 12 million tonnes per year from the open cut pit (pit number 4). This is in addition to the substantial increase of 30 Mt (or 23% of the mining resource) sought through MOD 9 (refer Section 2.3).

The proponent is also seeking a modification (MOD 3). Under MOD 3, the proponent is seeking an increase in the coal to be processed (8 Mtpa to 13 Mtpa), an additional rail movement (4 trains per day to 5 trains per day) and an extension of the project life from 2028 to 2037. There is no increase in disturbance area proposed under MOD 3 which has an approved disturbance area of 2,100 ha.

The coal would be processed in the existing plant. Consequently, production from the two stages of the mine would be constrained by the processing plant, which has capacity to process up to 17 million tonnes of ROM coal a year (P&I 2014A), with an output of up to 13 million tonnes of product coal a year (PPR *vol 1 p 21*). Both stages of the mine would be allowed to continue mining until the end of December 2037.

The Stage 2 expansion area comprises approximately 1,000ha (*as estimated by the Commission using <http://maps.six.nsw.gov.au/>*) to be undermined using a combination of longwall and highwall methods. One open cut pit, to the east of the underground mining domains would be excavated over a 24 year period, gradually splitting off into at least two separate active mining faces on either side of ridges. In order to accommodate this expansion, the Proponent is seeking project approval

for stage 2 (under transitional provisions for Part 3A of the *Environmental Planning and Assessment Act 1979*). A modification to the stage 1 approval is also needed, to allow it to receive and handle the coal extracted from the stage 2 area, as well as to change the sequencing of open cut mining – so open cut pit 4 (stage 2) would be mined before open cut pit 3 (stage 1) (PPR 2012). The Proponent proposes to operate the two stages of the mine as one integrated mining complex (PPR 2012). It is unfortunate the mine did not seek one new approval to cover both stages of the project, as the application of conditions in two different approvals that cover the one mining operation will complicate and potentially produce enforcement difficulties.

The Proponent has three applications underway, the combined effect is that the Proponent is seeking to expand the existing open cut pits, open a substantial new extension area to the east of the existing mine and operate both mining stages as one integrated mining complex. While the Commission has considered each application individually, it is also mindful of the connections between the three applications and the implications each will have on the other.

### **2.3 Associated Applications**

The Proponent has also submitted a separate application, modification 9, to modify and expand its operations in the stage 1 mining area (refer MOD 9). The modification has two key components:

1. to increase the size of open cut pits 1 and 2 by 178 ha extracting an additional 30 million tonnes of coal over the life of the mine; and
2. to upgrade the water management infrastructure on the site, including the construction of additional dams on site.

The modification would have associated implications for the final landform, relocating one final void and removing another. The Proponent also seeks to extend the life of the stage 1 mine, however Planning and Infrastructure has not recommended extending the life of the mine in this modification, indicating this would only be necessary if the stage 2 proposal (the subject of this review) proceeds. (Source: P&I Assessment Report for Mod 9, 2014).

## **3 Commission Activities**

### **3.1 Public Hearing and Submissions**

In accordance with the Commission's terms of reference, a public hearing was held on the 26 February 2014 at the Mudgee Town Hall. A total of 51 presentations were made to the Commission at the hearing. All registered speakers presented at the hearing. Written submissions were also made to the Commission. A summary of the issues raised at the Public Hearing is provided in Appendix 3 of this Report.

A number of submissions were provided to the Commission by Planning and Infrastructure. Planning and Infrastructure has summarised these issues in its preliminary assessment report.

The Proponent has also submitted a separate application, MOD 9, to modify and expand its operations in the stage 1 mining area. Following the public hearing on Stage 2 and Stage 1 MOD 3, on the 27 February 2014 the Commission held a public meeting to hear the community's views on Planning & Infrastructures recommendation.

The Drip was a key issue of concern for the community. This has consistently been raised by the community since the original project application. There is general agreement that the Drip is significant and iconic and should be protected. The ownership and land tenure of the Drip was of particular concern with strong support for its inclusion within the Goulburn River National Park. It was noted that to date the Proponent had not agreed to secure a suitable area of land around the Drip to the Goulburn River National Park.

The significance of the Drip was acknowledged by the proponent with the Stage 1 application and determination however the proponent has failed to yet secure the required offsets to ensure the conservation of the Drip and surrounds.

Concerns about other groundwater and surface water impacts of the stage 2 mine proposal were also raised. Particular emphasis was given to the cumulative water impacts from all three mines in the area.

Aside from the Drip and water impact issues, there was general support for mining expressed at the public hearings in Mudgee. Concerns from special interest groups and locals in close proximity to the mines, particularly related to biodiversity were raised. Impacts on the local population, particularly displacement impacts as well noise and air quality impacts were also issues of concern to the local community.

### **3.2 Documents, Meetings & Site Inspections**

Through the course of the review the Commission accessed a range of documents including:

- The Department's preliminary assessment and suggested draft conditions
- The Proponent's Environmental Assessment and Preferred Project Report;
- Submissions from government agencies and the public; and
- The 2007 report of the Independent Hearing and Assessment Panel on the Moolarben Coal Project – in relation to stage 1.

During the review, the Commission met with Planning and Infrastructure (7 February 2014, 3 March 2014 and 3 April 2014), Mid-Western Regional Council (27 February 2014), the Environment

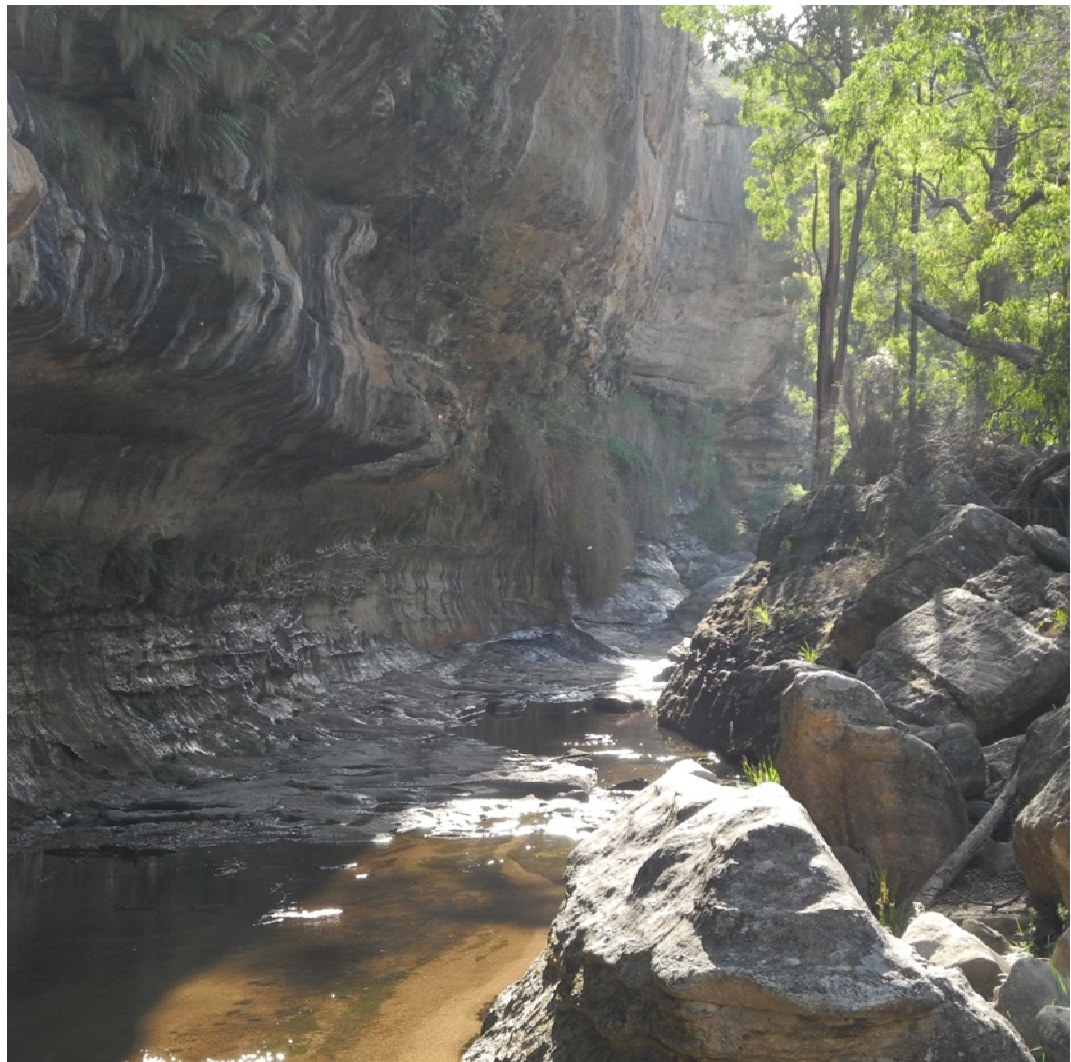
Protection Authority (27 March 2014), the Office of Environment and Heritage (27 March 2014), the Office of Water (27 March 2014) and the Proponent (25 February 2014).

The Commission visited the site on 25 February 2014 with the Proponent and visited the Drip on 26 February 2014 accompanied by two local officers from the Office of Environment and Heritage.

#### **4. The Drip**

Protection of the Drip was the key concern raised at the public hearing, as well as at the public meeting the Commission held, relating to Modification 9.

The Drip is a natural feature approximately 5 km north of the Stage 2 extension project boundary, and more than 5 km from the mining activities proposed as part of the stage 2 extension. Water drips from a cliff wall and a number of speakers attested to the fact that the water continues to drip from the wall even during periods of severe drought. The Drip appears to be a popular place to visit with signage and a clear track. Presentations during the public hearing indicated that it is also used for school excursions.





**Figure 1: The Drip, 26 February 2014** (photos taken by Commission Members and secretariat during the visit to the Drip)

Significant concerns about the Drip were raised by the community and a number of special interest groups. There are two key concerns regarding the Drip, that:

1. mining in the area could impact on the Drip; and
2. the Drip and its surrounds were previously Crown Land which has since been acquired by Moolarben.

The Commission notes that in relation to the proposed mining activities, they will be undertaken more than 5 km from the Drip. Nonetheless, Moolarben has approval under in its stage 1 mining project to build an underground mining domain in relatively close proximity to the Drip. That approval requires that a 500 metre wide barrier be retained between the longwall panels and the Drip.

In relation to subsidence and impacts on surface features, the 500 metre barrier was deemed appropriate by the Independent Hearing and Assessment Panel (IHAP) when it undertook its review

of that application in 2006 and 2007 (IHAP, 2007). Further work was undertaken to consider the potential impacts on water and Planning and Infrastructure's draft assessment suggests there is consensus between the relevant experts that the Drip is supplied by a perched aquifer and is isolated hydraulically from drawdown effects that would occur in other aquifers (draft Assessment Report page 39). Sub-surface fracture is still a potential risk and the expert advice provided in 2007 when this aspect of the mine was assessed recommended that monitoring should be conducted to confirm the groundwater behaviour and response over the first 4 longwall panels (IHAP 2007, page 56). The existing conditions of the stage 1 approval require this through various conditions, including a requirement for end of panel reports to analyse the subsidence and water impacts of the panel, as well as cumulatively.

The draft modifications to the Stage 1 conditions, which are included in the documents submitted for review would replace the existing subsidence conditions with an alternative set of conditions. The preliminary assessment report indicates this is *"to reflect the changes to the regime for managing subsidence in NSW that have come into effect since the original approval was granted"*. While the Commission accepts changes may need to be made to bring the conditions into line with the most recent requirements or standards, it appears that some of the detail in the existing Stage 1 conditions is not as clearly set out in the proposed conditions as drafted.

Some of the recommendations contained in the Independent Expert Scientific Committee's advice (refer Section 6) are included in the conditions recommended by Planning and Infrastructure. The Commission has recommended adding some others as well (see the recommendations in Section 6).

The second concern regarding the Drip relates to the land tenure of the Drip and surrounds. The Commission understands that the Drip was previously on Crown Land, but that the parcel containing the Drip was sold to Moolarben in 2010 (the Commission was not asked to consider any aspect of the mine until late 2013 when the proposal was referred to the Commission by the Minister for review). To complicate matters, the walking track which is used to access the Drip traverses three or four different land tenures. A travelling stock reserve, Crown Reserve, Crown Land, Moolarben owned land, privately owned land and the Goulburn River National Park are all within close proximity to the Drip and/or the walking track.

There is a strong argument to incorporate the Drip and its surrounds into the Goulburn River National Park and the Commission agrees with this view. The proponent has committed to reserving the Drip feature as National Park, but the surrounding land would remain in its existing ownership, albeit with an 'upgraded' walkway to the Drip. Some submitters called for a much larger area to be added to the National Park. The Office of Environment and Heritage provided a map which suggested reserving an area approximately 500 metres wide and 1.5 km's long, stretching from Ulan Road to the Goulburn River National Park. This would ensure both the Drip and the access to the Drip were all managed and protected as National Park.

The Commission understands further negotiations are in progress between the proponent, Mineral Resources (NSW Trade & Investment), the Office of Environment and Heritage (National Parks) and the Department with the view of the Drip being secured as part of the Goulburn River National Park. While the Commission supports and agrees with the ongoing negotiations it is still concerned that the Drip has not yet been secured noting the length of time this has been a concern.

## **5 Biodiversity**

The Commission has been directed by the Minister in its Terms of Reference to pay particular attention to the potential biodiversity impacts of the project. The NSW government policy framework for biodiversity assessment and offsetting for major projects is currently under review

(Draft Framework, March 2014). The Office of Environment and Heritage advised the Commission that current policy is underpinned by seven principles:

1. Before offsets are considered, impacts must first be avoided and unavoidable impact minimised through mitigation measures. Only then should offsets be considered for the remaining impacts.
2. Offset requirements should be based on a reliable and transparent assessment of losses and gains.
3. Offsets must be targeted to the biodiversity values being lost or to higher conservation priorities.
4. Offsets must be additional to other legal requirements.
5. Offsets must be enduring, enforceable and auditable.
6. Supplementary measures can be used in lieu of offsets.
7. Offsets can be discounted where significant social and economic benefits accrue to NSW as a consequence of the proposal.

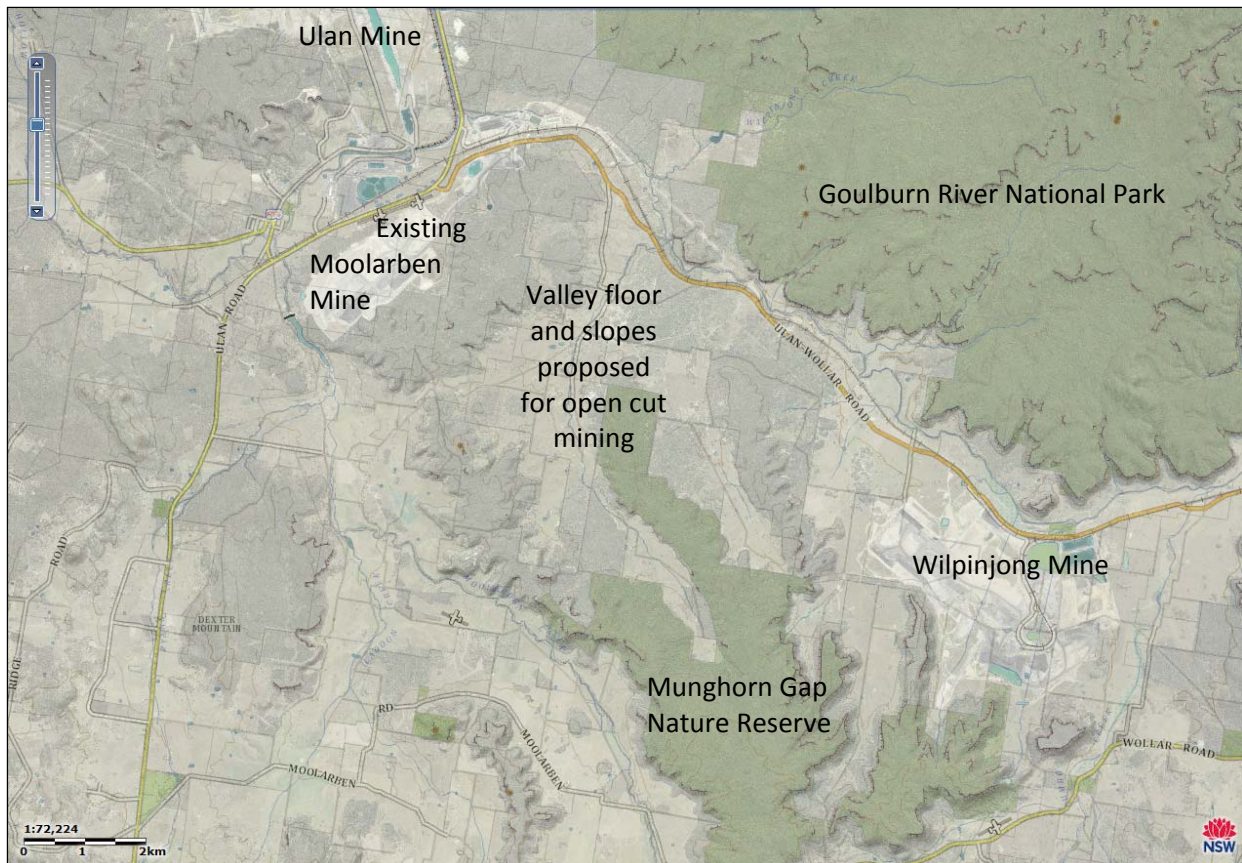
### **5.1.1 Impacts**

The Proponent advises (correspondence of 25 March 2014) that the project would disturb 1,534 ha of native vegetation, including 123 ha of the critically endangered *White Box*, *Yellow Box*, *Blakely's Red Gum Woodland* community and 902 ha of potential habitat for the Regent Honeyeater. The proposal also includes underground mining of significant areas and the Commission understands that potential disturbance to vegetation to be undermined has not been included in these figures.

According to the Proponent's assessment of the biodiversity impacts of the project (14 Feb 2014 Cumberland Ecology Additional F&F surveys), nine threatened fauna species have been recorded within the proposed disturbance area (eight birds and the Large-eared Pied Bat). A further nine threatened fauna species (seven birds, the Squirrel Glider and Little Pied Bat) are likely to occur on the site, and 11 others have the potential to occur on the site (14 Feb 2014 Cumberland Ecology Additional F&F surveys). Two listed migratory species (under the *Environment Protection and Biodiversity Conservation Act 1999*) have also been recorded on the site and four others are likely or have the potential to occur on the site.

### **5.1.2 Regional context**

The Commission has considered the biodiversity impacts of the project in the context of the surrounding landscape. The site sits within an existing mining cluster, in close proximity to both open cut and underground coal mining operations to the east and northwest. The area also contains large areas of native vegetation, including significant areas protected within reserves, with the Goulburn River National Park to the north of the site and the Munghorn Gap Nature Reserve to the south east (see Figure 2, below). Further afield are the Wollemi National Park to the south east and the Avisford Nature Reserve, south of Mudgee.



**Figure 2: Local context of the valley floors to be mined and the elevated nature of the reserves**

Source: NSW Government Spatial Information Exchange [www.maps.six.nsw.gov.au](http://www.maps.six.nsw.gov.au)

### 5.1.3 Impact avoidance and mitigation

The proponent provides a commitment to minimise the area of disturbance. The proponent is proposing to deliver high quality habitat through rehabilitation of mine areas as a means of mitigating impacts. It is difficult for the Commission to be definitive about the adequacy of avoidance and mitigation measures but the scale of the disturbance is questioned, given the shortcomings in the Proponent's offset strategy highlighted by OEH. One aspect of the mine plan that the Commission considers has not been adequately justified, is the out of pit emplacement areas that are proposed for each open cut pit. While the Proponent has moved the out of pit emplacement area for Pit 4 to avoid highly sensitive valley floor and lower slope habitat (PPR, 2012) the out of pit emplacement would still impact on Endangered Ecological Communities and native vegetation. This issue is further discussed in the Section 8 relating to the mine plan and final landform.

### 5.1.4 Transparent assessment of losses and gains

OEH questioned the Proponent's unilateral discounting of offset requirements by 7.58 credits per hectare of rehabilitation, noting that existing OEH policy and offsetting methodology allows for the inclusion of mine rehabilitation in offsets in exceptional circumstances only. So called 'deferred credits' are usually only claimable upon the successful completion of restorative actions and any credit surplus thus derived is applied to another development.

### 5.1.5 Proposed Offsets

The Proponent proposes to secure significant areas of land to 'offset' the biodiversity functions and values to be impacted during mining. The proposed offsets are scattered across the region and vary in biodiversity and habitat value. For example some of the proposed offset areas contain existing native woodland vegetation, while other areas are grasslands proposed to be restored to native



communities. Many of the proposed offset properties adjoin existing nature reserves. Parts of the project site that are to be secured adjoining the Munghorn Gap Nature Reserve; a proposed offset property to the north would connect with the Goulburn River National Park; and two parcels would connect to the Avisford Nature Reserve. However, two large but non-contiguous parcels of land further south, (approximately 70 km south west of the mine) are also proposed to be secured as offsets for the impacts on the site.

A number of submissions and speakers at the public hearing raised concerns about the biodiversity impacts, the suitability and availability of offset areas and the mechanisms to secure those offset areas. Submissions from the Office of Environment and Heritage have also raised concerns about the suitability, availability and management of the proposed offsets (OEH, 28 Sept 2012 submission) and its April 2014 submission to the Commission confirms this position; that the proposed offset strategy is not commensurate with the expected impacts (OEH, 2014 – submission to PAC 2 April 2014).

The offset strategy has been criticised including the inability to provide like for like offsets. Importantly the Office of Environment and Heritage (2014) estimates that the Offset Scheme has a shortfall of approximately 55,000 bio-banking credits and also questions the appropriateness of the remote offset properties proposed to be included in the offset scheme.

It might be argued that the area around the mine site contains considerable native vegetation reserves, while some of the more distant offset sites proposed would secure and promote the growth of woodland in areas that are less well represented in the National Parks Estate. However, OEH (April 2014) stresses that the reserves in the immediate vicinity of the Moolarben mine are in a different land system to that being impacted by the current proposals.

The Commission agrees that the disadvantages of some of the proposed offset sites include distance from the mine site, limited connectivity with existing reserves and the limited existing habitat value of grassland areas which will require considerable time and effort to regenerate and many decades to produce tree hollows. Nonetheless, it is possible to argue in support of some restoration of grasslands, as this would provide some real long term increase in the level of tree cover and woodland habitat available in the region, as opposed to offsets of existing high quality vegetation, which simply secures existing remnants, rather than providing any addition to the overall level of woodland cover.

#### **5.1.6 Regional Biodiversity Strategy**

As noted in other reviews, the task of acquiring and securing regionally significant areas of remnant vegetation to be managed for biodiversity conservation is complicated and constrained by a number of factors (PAC, 2012 (Boggabri Review)). In other areas the Commission has previously recommended a Regional Biodiversity Strategy as a way to manage the selection, establishment and ongoing protection of biodiversity offset areas (PAC 2012a, 2012b, 2012c and 2012d (Maules Creek and Boggabri review and determination reports)). The Office of Environment and Heritage (2014) has suggested that a similar requirement should be considered for this region.

The Commission notes that although three mines are already operating in the area, Moolarben currently has two expansion applications in progress (this application for stage 2 and an extension of the existing stage 1 mining area, known as modification 9). Other mining applications are also in preparation further east in the Bylong Valley and the Commission is aware that coal reserves also extend to the north of Moolarben's current mining areas. The existing Moolarben coal mine operation is not insignificant and the substantial increase in coal resource requested through MOD 9

warrants the development of a Regional Biodiversity Strategy. Consequently, the Commission agrees a Regional Biodiversity Strategy is warranted.

The Commission recommends that a Regional Biodiversity Strategy should be prepared to set out the long-term framework for consistent and coordinated planning, management and monitoring of offset areas that will add to and/or complement existing and proposed conservation areas and corridors. As part of the Regional Biodiversity Strategy, consideration should be given to a Regional Biodiversity Conservation Fund to be administered by an expert panel identifying priorities for expenditure to achieve strategic objectives for the region. The strategy and fund should include provision for incentive payments for private landholders demonstrably contributing to achievement of regional conservation outcomes.

### **5.1.7 Threatened Woodland Birds**

The majority of the threatened fauna species identified on the project site are woodland birds.

The loss of habitat for threatened woodland birds is a particular concern for the Office of Environment and Heritage, particularly for the Critically Endangered Regent Honeyeater (OEH submission to Planning 14 December 2012 and OEH 2014). Several compounding factors associated with the mining activities in this area particularly threaten the woodland bird populations.

1. The mine would remove remnant valley floor and lower slope woodlands, which are generally more productive than the dry forests of the upper slopes (OEH, 2014). As shown in Figure 2, the valley floor and lower slope woodlands are not as well represented within the surrounding reserves.
2. Habitat fragmentation has the potential to severely limit the dispersal capabilities of a number of threatened woodland birds. Advice from the Office of Environment and Heritage (2014) suggests that this proposed open cut mining activity, combined with the cumulative impacts of other neighbouring mines has the potential to seriously compromise the viability of remaining woodland bird populations.
3. The potential gains from securing and progressively rehabilitating the offset sites will only be realised in the long term. Short to medium term net habitat losses are said to represent a serious threat to the Regent Honeyeater (OEH, 2014).

The Commission acknowledges that the Proponent has adjusted the mine plan to avoid disturbing some valley floor and slopes around the upper reaches of Murrumbidgee Creek, where overburden emplacement was originally proposed (PPR, 2012). Nonetheless out of pit emplacement is still proposed to occur over areas of existing woodland, including a small area of *White Box*, *Yellow Box*, *Blakely's Red Gum Woodland* community.

In previous submissions to Planning and Infrastructure the Office of Environment and Heritage has recommended that support for the National Regent Honeyeater Recovery Team may be warranted given the mine will be unable to deliver any significant woodland habitat gains in the short to medium term (OEH 14 December 2012 submission). Work to assist the Regent Honeyeater is also said to benefit other threatened species, including some of those identified on the project site, such as the Diamond Firetail, Speckled Warbler and Painted Honeyeater (DECC 2009). The Commission agrees that the 902 ha of potential Regent Honeyeater habitat to be disturbed will not be easily or quickly replaced and that some additional support for threatened woodland birds is warranted.

Support for woodland birds may need to be provided at a range of levels and the Department of the Environment Regent Honeyeater Recovery Plan 199-2003 nominates rehabilitation and revegetation as actions needed and notes these are best achieved by facilitating community ownership and participation (Department of Natural Resources and Environment, May 1999

<http://www.environment.gov.au/resource/regent-honeyeater-xanthomyza-phrygia-recovery-plan-1999-2003>).

The significance of the Central West of NSW for agricultural and pastoral production means that it is difficult to secure biodiversity offsets in the traditional manner by reserving land, without disrupting these productive rural activities which are important for the local, regional and state economy. Innovative mechanisms are needed to secure biodiversity gains without relying solely on changes in land tenure.

Options for incentive programs should be investigated, targeting private landholders willing to maintain or enhance critical biodiversity habitats. However, any financial payments should recognise results rather than simply well intentioned effort.

While any incentive program to secure local populations and improve the conservation status of the Regent Honeyeater or other woodland birds will need to be specifically designed to target their unique habitat requirements and local threats, valuable lessons might be learned from similarly targeted programs elsewhere.

The Commission considers that financial and/or in kind support for the Regent Honeyeater Recovery Team will need to be provided in the first instance, with the quantum of compensation to be commensurate with funding requirements that have been applied to other mines (for example Ravensworth –

<http://www.ravensworthoperations.com.au/EN/Publications/DevelopmentConsents/131223%20EPBC%20Combined%20Approval.pdf>).

The regional biodiversity strategy should also be required to give consideration to woodland bird recovery objectives and to consider supplementary measures that may be able to be introduced to support the recovery of woodland birds in conjunction with existing studies and efforts such as those currently underway for the Regent Honeyeater and Swift Parrot.

### **5.1.8 Office of Environment and Heritage Request**

In its 2 April 2014 submission to the Commission, the Office of Environment and Heritage reiterated that it remains of the view the proponent should be required to minimise direct or indirect impacts on the OEH's estate to the fullest extent possible. Such requirements are not specifically included in the draft Conditions of Approval or the Statement of Commitments. OEH requested the Commission consider implementing a number of recommendations to address the lack of adequate justification for the proponents offset strategy.

The recommendations include:

- The provision of buffer zones between open cut operations and Nature Reserves;
- The proponent conduct surveys to identify the entire boundary of the Stage 2 project with the Munghorn Gap Nature Reserve, in consultation with OEH;
- The PAC conduct a robust assessment of the project Biodiversity Offset Strategy and if accepting of the remote offset locations then further land management issues are to be addressed;
- Consider a precinct approach to the management of the outstanding biodiversity offset areas; and
- Ensure referencing of offset strategies meet OEH's guidelines.

The Commission considers that the Office of Environment and Heritage's requests are reasonable and should be generally adopted. In this regard the Commission has already recommended that a regional biodiversity strategy should be prepared.

The Commission has some reservations about requiring a strict 50 metre buffer around Munghorn Gap Nature Reserve to the extent sought; that is for infrastructure as well as open cut mining. The Commission agrees that a 50 metre buffer between open cut mining and the Nature Reserve is a minimum requirement. Nonetheless, the Commission considers there may be some small infrastructure works that could be contained within this 50 metre buffer area, so long as the works would not impact on the Nature Reserve and would not disturb any Endangered Ecological Community on the site.

### **Recommendations**

A Regional Biodiversity Strategy should be prepared to set out the long-term framework for consistent and coordinated planning, management and monitoring of offset areas that will add to and/or complement existing and proposed conservation areas and corridors. It should be supported by a Regional Biodiversity Conservation Fund administered by an expert panel identifying priorities for expenditure to achieve strategic objectives for the region. The strategy and fund should include provision for incentive payments for private landholders demonstrably contributing to achievement of regional conservation priorities.

The regional biodiversity strategy should also be required to give consideration to woodland bird recovery objectives and to consider supplementary measures that may be able to be introduced to support the recovery of woodland birds in conjunction with existing studies and efforts such as those currently underway for the Regent Honeyeater and Swift Parrot.

The advice from the Office of Environment and Heritage, and particularly the requested controls listed above, should be given careful consideration in the drafting of conditions for the mine.

## 6 Water

A number of concerns about impacts on water were raised in submissions and at the Public Hearing. The potential for impacts on the Drip was a significant concern for the community and this has been considered in Section 4. Concerns about other groundwater and surface water impacts of the stage 2 mine proposal were also raised. Particular emphasis was given to the cumulative water impacts from all three mines in the area.

The mine would disturb a considerable area of land and the open cut pit intercepts two creeks within the site, Murragamba and Eastern Creeks. The level of aquifer interference has been questioned and the cumulative impacts of drawdown and take from the three existing mines (Moolarben, Ulan and Wilpinjong) as well as proposed mines at Mount Penny and Bylong, have led to calls in public submissions for an independent regional water study and a review of the Hunter Salinity Trading Scheme.

Objectors' concerns about water covered both the adequacy of the assessment undertaken and the acceptability of the impacts predicted. The Commission has considered both aspects.

Planning and Infrastructure has assessed the water impacts of the mine, of which there are a number of components, including the groundwater aquifers intercepted or impacted by both the open cut and underground mining activities, the surface water losses and discharges, and the proposed creek diversions.

The NSW Office of Water had initially raised a number of concerns about the potential impacts on water. Of particular concern was the potential for open cut mining within a palaeo channel which "carries a significant risk of altering water quality and flows in Wilpinjong Creek and the connected alluvial aquifers" (NOW 9 April 2013, p1). The NSW Office of Water requested further information and updates to the water modelling to account for the potential for a greater level of hydraulic connectivity than had been factored into the model (NOW 1 July 2013). These concerns were eventually addressed. The Office of Water has now confirmed both in its submission of 9 August 2013 and during its meeting with the Commission that the additional work provided is satisfactory. During its meeting with the NSW Office of Water the Commission was advised that with the additional monitoring requirements in place, the risks in the worst case scenario are manageable.

A water balance for the site predicts there would be a water deficit for the majority of mine years, even once supplies from a water sharing agreement with the Ulan Mine and water from the Northern Borefield are added (PAR 2014). Planning and Infrastructure's assessment indicates that feasible solutions are available, and ultimately the draft conditions require the proponent to ensure it has sufficient water for all stages of the project and it would be required to adjust the scale of the operations on site to match the availability of water supply in the event it is unable to secure the water it requires. The Commission is satisfied with this approach, but notes that the Proponent indicated options to address water deficits may include considering alternate means of dust suppression (sourced from Gilbert & Associates, 5 December 2012 *Surface Water Review*). The Commission considers it must be made clear that dust suppression measures must not be compromised by a potential water shortage at the mine and the mine's forward planning must account for this.

The Commission recommends the condition, requiring the Proponent to ensure it has sufficient water for all stages of the project and adjust the scale of operations to match the available water

supply, should also include requirements for forward planning, to ensure that water supply constraints do not compromise any aspect of the environmental performance of the mine.

Water licencing for the groundwater and base flow take is complicated as the mine would need to acquire 87% of the available unregulated river access licences in Wollar Creek (68 of the 78 unit shares (ML) (PAR 2014)). Instead, the Proponent proposes to apply for a conversion to convert 68 unit shares of aquifer access entitlement to unregulated river access entitlement. The Office of Water (1 July 2013) submission confirms this conversion can be considered. The Commission is satisfied that the draft conditions require the Proponent to ensure it has sufficient water for all stages of the project and that it will be required to obtain the necessary water licences in accordance with the *Water Act 1912* and the *Water Management Act 2000*.

The Australian Government's Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (the IESC, or the Committee) provided advice to the Australian Department of Environment on the project in early 2013. The Committee raised a number of concerns particularly regarding groundwater drawdown and potential associated impacts on creeks and the Goulburn River, as well as groundwater dependent ecosystems and vegetation, including within the Goulburn River National Park and Munghorn Gap Nature Reserve. The Committee recommended that regular monitoring and effective management strategies will be needed to minimise impacts on streams and water dependent flora and fauna. The Committee specified that surface water monitoring should be conducted in accordance with the National Water Quality Management Strategy.

The IES Committee also acknowledged the cultural, heritage and ecological values of the Drip and recommended that further work is conducted to ascertain the source water for the Drip and to confirm it will not be impacted by groundwater drawdown. Given the Proponent is required to ensure it has negligible impact on the water supply to the Drip, monitoring to characterise the Drip water supply seems reasonable.

In relation to the suitability of the conditions drafted by Planning and Infrastructure more generally, the Commission notes that the Office of Water has recommended the additional monitoring requirements be built into the water management plan for the project. While the draft conditions include a requirement for a Water Management Plan it does not specifically identify the monitoring requested by the Office of Water. To avoid any doubt the Commission considers these Office of Water requirements should be referenced in the Water Management Plan condition, to ensure this monitoring occurs. The Commission also notes that the water management plan condition includes requirements to respond to any exceedances of the groundwater assessment criteria. The Commission considers this requirement should go further, to ensure that a plan is also in place to respond to any monitoring results which may be inconsistent with the various water models and predicted impacts.

Some of the Planning and Infrastructure's recommended Water Management Performance Measures lack detail and certainty and this was highlighted by speakers at the public hearing. Submitters raised particular concern with the use of words like negligible. The Commission agrees that while some numerical standards are clear and supported, other performance criteria require the proponent to minimise various risks, such as the migration of pollutants beyond the pit shell. These measures should be reviewed and strengthened in the final conditions. The Commission acknowledges it is difficult to devise clear performance measures that are not open to interpretation and/or abuse by one party or another. The Commission also notes that this concern is not unique to this application, as terms such as 'negligible' are commonly applied to conditions for underground mines in NSW. While there may be limited scope to improve the provisions that would apply to this

application, the Commission considers the controls for water and subsidence impacts from mining would benefit from some detailed policy review work.

In relation to the creek diversion, the Commission considers that performance measures should also be included to ensure that the riparian vegetation is appropriately re-established along the realigned creek, and that aquatic biodiversity is also restored throughout the creek. The Commission acknowledges that detailed criteria and trigger levels are required to be identified in the surface water management plan, however recommends that this should be informed and supported by some key performance criteria in the approval as well.

#### Adequacy of the assessment and peer review

In relation to the level of assessment undertaken, the hydrological system around the site is said to be extensively monitored and well defined (Planning and Infrastructure Report 2014). Planning and Infrastructure (Prelim Ass Report 2014) notes that a number of experts have reviewed the proponent's groundwater assessment, including Dr Col Mackie (whose advice was provided by Ulan in its submission on the project) and Dr Frans Kalf who Planning and Infrastructure engaged to undertake a peer review. Mr Lindsay Gilbert was commissioned to peer review the surface water assessment and water balance for the site (PAR 2014). While some differences of opinion do exist, ultimately the peer reviews concluded that the modelling undertaken is satisfactory, but recommended that it should be updated and verified over time (Planning and Infrastructure 2014).

One submission suggested that a rigorous scientific peer review should include a panel of experts, rather than just one. A review of the whole complex of mines was also recommended, to be conducted by an expert technical panel. In this regard the Commission notes that the Office of Water has also considered the proposal and that the Australian Government's Independent Expert Scientific Committee provided advice on the project in early 2013.

The Commission met with representatives for the Office of Water, who confirmed that the Office's original concerns have now been satisfactorily resolved. The Commission was also advised that, from the Office of Water's perspective, the Planning and Infrastructure assessment of the project is accurate.

#### Conclusions

The Commission is satisfied that the water impacts of the project have been thoroughly considered, and that with the additional monitoring required by the NSW Office of Water, along with some additions to the performance measures and monitoring requirements impacts on water can be suitable mitigated and managed. Based on the advice provided by the NSW Office of Water the Commission is satisfied that the 'independent regional water study' called for by some objectors is not necessary. The Commission is also satisfied that the wider governance arrangements and review mechanisms covering water sharing plans and the operation of the Hunter Salinity Trading Scheme are adequate to deal with issues which may arise over time.

Issues with the final void are discussed in Section 8.

#### **Recommendations**

The Water Management Performance Measures should be reviewed and strengthened in the final conditions to ensure local and regional impacts over time are detected early and appropriate mitigation measures are implemented to mitigate identified impacts. In this regard the Commission suggests the performance measures:

- should not only cover impacts on water quality, but should also cover impacts on water quantity, along with appropriate monitoring to ensure compliance with this measure;

- should require mine water storage to be designed to prevent offsite discharges of mine (dirty) water, including adequate freeboard to account for potential intensification of extreme events as a result of climate change;
- should require tailings, acid forming and potentially acid forming materials to be emplaced, encapsulated and capped in pit in such a way as to prevent the migration of pollutants beyond the pit shell (no out of pit emplacement of these materials should be allowed);
- should include requirements for the pit voids to contain adequate freeboard to prevent discharge of surface water;
- should include trigger levels and water quality objectives developed by considering both the existing site specific water quality data (or pre-mining data where this is available), and ANZECC 2000 guidelines, with the most stringent criteria to be adopted;
- should ensure that the riparian vegetation is appropriately re-established along the realignment, and that aquatic biodiversity is also restored throughout the creek; and
- the Proponent is to ensure it has sufficient water for all stages of the project and adjust the scale of operations to match the available water supply. The management of water supply is to also include provision for forward planning, to ensure that water supply constraints do not compromise any aspect of the environmental performance of the mine.

The Water Management Plan requirements should include:

- reference to the Water Management Performance Measures set out in the previous condition;
- reference to the Office of Water's additional monitoring requirements;
- reference to the National Water Quality Management Strategy;
- monitoring to characterise the Drip's water source; and
- a plan to respond to any monitoring that is inconsistent with the model and the predicted impacts on local and regional water resources.



## 7 Noise, Dust and Blasting

Mining, and particularly open cut mining, produces significant noise and dust, as well as impacts from blasting. The Moolarben Mine Complex is less than a kilometre from Ulan Village, while Cooks Gap is further to the south west. Dust, noise and blasting limits have been applied to mining activities across NSW for many years, with some of the levels currently applied not formally endorsed in any official government policy (for example the  $150 \mu\text{g}/\text{m}^3$  level used as a short term acquisition criteria).

The Commission understands the dwellings in the Village of Ulan are now almost all owned by the Proponent, or by the Ulan Mine, which operates to the north of the village. The village also contains a number of commercial properties and it is not clear if these are privately owned. The Ulan Primary School also operates in the Village. Aside from Ulan, Cooks Gap is the nearest relatively closely settled area. A small number of properties in Cooks Gap are owned by the mine (PPR, 2012).

### 7.1 Air quality

The air quality assessment has considered the dust emissions from the combined operations of both stage 1 and stage 2 of the mine at the nearest privately owned properties, including Ulan, Cooks Gap and the surrounds.

#### 24 hour average PM<sub>10</sub> levels

The modelling for PM<sub>10</sub> emissions from the mine suggests that the combined operations of stage 1 and stage 2 of the mine complex would not exceed the 24 hour average PM<sub>10</sub> health criteria of  $50 \mu\text{g}/\text{m}^3$  (although this does not take account of the existing background levels and any contribution from the Ulan and Wilpinjong mines).

The highest predicted impacts are expected to occur in Ulan Village. Most residential properties within the village are now owned by either the Moolarben or Ulan mining company (PPR, 2012). The impacts on a privately owned property on the outskirts of Ulan Village (ID 46B) have been considered in detail and predict the mine would produce 24 hour dust emissions reaching  $43 \mu\text{g}/\text{m}^3$  in years 16 and 19 (or even higher if a conveyor is not used) (PPR 2012). The primary school is predicted to receive levels of up to  $40 \mu\text{g}/\text{m}^3$  from the mine (PPR 2012). These levels are from the Moolarben operations alone, they do not include any background component, or any contribution from the nearby Ulan or Wilpinjong open cut mining operations.

In relation to cumulative impacts, the Proponent noted that the 24 hour dust levels would not usually include any additional impact from Ulan as that mine is to the north of the village and consequently dust from each mine would affect the village at different times (rather than at the same time), depending on the wind direction. The Proponent has provided some statistical analysis of the potential for the 24 hour average dust criteria ( $50 \mu\text{g}/\text{m}^3$ ) to be exceeded when cumulative dust levels are taken into account. Four properties were analysed, including property 46B on the outskirts of Ulan Village, and three properties to the south west between the Cooks Gap and the site, as well as further south adjoining the Munghorn Gap Nature Reserve. The statistical analysis found that the criteria would likely be exceeded at receptor 46B "on a small number of days in most years" (V1 Appendix C p 74 PPR 2012). The results are only presented in graph form so they cannot be interpreted precisely, however the graphs show that there is about a 2-3 percent chance of the criteria being exceeded on any given day in most years (PPR 2012). This suggests the criteria would be exceeded 6 - 10 days a year at this property. The assessment also acknowledges that this location

is representative of Ulan Village properties 151 and 162 (PPR 2012) and the Commission expects these levels would also be reflected at Ulan Primary School. Planning and Infrastructure has characterised this as a small number of exceedances which could be adequately managed through the continued operation of the real time air quality management system (PAR, 2014). Nonetheless, Planning's assessment does not identify the number of exceedances which may be generated by the Ulan mine in these years, so it is not possible to determine the total number of exceedances which may affect the residents of Ulan and the attendees at Ulan Primary School.

The current conditions that apply to stage 1 of the mine set standard criteria for the mine. Similar conditions are recommended for stage 2. Concerns about the short-term 24 hour PM<sub>10</sub> acquisition criteria (particularly the 150 µg/m<sup>3</sup> criterion) have been raised in other reviews undertaken by the Planning Assessment Commission (especially the Coalpac Review Report 14 December 2012 and more recently in the Stratford Review April 2014). These criteria should be reviewed from a health perspective given the National criteria of 50 µg/m<sup>3</sup> and the advice from NSW Health on other mining applications, about mortality and morbidity impacts (Coalpac, 2012). The Commission acknowledges that the review process will take some time. In the interim the Commission recommends a revised acquisition criterion (to replace the 150 µg/m<sup>3</sup> criterion) should be developed in consultation with NSW Health and the EPA prior to any final approval of this project.

#### Annual Average PM<sub>10</sub> Levels

In relation to the annual average dust levels, the Australian criterion is 30 µg/m<sup>3</sup>, although as noted in other reviews conducted by the Commission (e.g. Coalpac, 2012) the World Health Organisation (WHO) guideline for annual average PM<sub>10</sub> levels is 20µg/m<sup>3</sup> (WHO, 2005).

The Proponent predicts the WHO guideline level of 20 µg/m<sup>3</sup> would be exceeded at a number of properties in Ulan Village and Cooks Gap, as well as to the west of Ulan, in the early years of mining, but would gradually decrease below 20 µg/m<sup>3</sup> at most properties as mining progresses (PPR 2012). The annual average criteria for NSW (30 µg/m<sup>3</sup>) is not expected to be exceeded at any private property. Notwithstanding this, levels in Ulan, particularly at Ulan Primary School are predicted to remain high, above the 20 µg/m<sup>3</sup> WHO criteria until at least year 20 (PPR 2012).

It is standard practice to grant acquisition rights to land owners of residential properties where air quality criteria are expected to be exceeded (and the majority of the dwellings in Ulan have now been acquired by one mine or another), it was not clear if or how this might be applied to a school however. The Commission has carefully considered this issue. The Commission notes that the recommended conditions include requirements for the proponent to assess and manage project related risks (condition 2 of schedule 5) and commission regular auditing (condition 9 of schedule 5). In its statement of Commitments for Stage 1 the Proponent has also committed to consult with the Ulan Public School and the Department of Education and undertake agreed works to ameliorate potential noise and dust impacts on the school; or negotiate to contribute to or meet reasonable costs towards relocating the school (Commitment 5). The Commission is satisfied these conditions provide a suitable framework for addressing the potential dust impacts at the Ulan Public School. Nonetheless the Commission considers the statement of commitment for Stage 1 should be added as a condition for both Stage's 1 and 2 of the complex, rather than relying on the Proponents statement of commitments alone.

#### Conclusions

In general terms the mine is relatively remote from large population centres and is not expected to cause significant air quality impacts over and above the levels already being produced by the existing mining operations in the area. The Commission is generally satisfied that the air emissions from the

project can be managed with the implementation of best and leading practice control measures. Nonetheless the Commission makes the following recommendations in relation to air quality.

### **Recommendations**

The current long term impact assessment criteria and acquisition criteria for annual average PM<sub>10</sub> levels should be reviewed against the WHO goal of 20 µg/m<sup>3</sup>.

The commitment to work with NSW Education to deal with dust and noise impacts to the Ulan Public School should be included as a condition of approval for Stage 2.

The modelled air quality impacts that the Commission has considered are based on the use of a conveyor between open cut pit four and the coal handling and processing facility. Any approval should be for use of the conveyor rather than any other means of transport.

Given that the national 24 hour PM<sub>10</sub> criterion is 50 µg/m<sup>3</sup>, the Commission considers that the acquisition criteria should be reviewed in consultation with NSW Health and the EPA. The Commission recommends that revised acquisition criteria should be developed in consultation with NSW Health and the EPA prior to any final approval of this project.

The Commission does not agree with the draft changes to the conditions relating to air quality and recommends that the conditions for Stage 2 are drafted to be consistent with the existing conditions for Stage 1, wherever possible. This has been addressed in more detail within the determination of MOD 9.

## 8 Other Issues

### 8.1 Mine Plan

#### Final Void

Submissions have raised various concerns about the rehabilitation of the mine site and the final void. There is a growing opposition to the retention of final voids and the Australian Government's Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development expresses some concern about the proposed retention of a final void, indicating it considers that best practice is to backfill voids (IESC, 2013). The Commission shares the Committee's concern about the retention of permanent pit void lakes on mine sites. The Commission considers best practice is to avoid the creation of a final pit void lake in the initial mine planning for the site. This requires careful consideration of mine planning and sequencing, having regard to the inter-relationships between the locations of the coal seams, the surface topography and the drainage patterns. On some sites it is possible to schedule mining activities to end at a point where a pit void lake would not be produced, ideally where the surface topography of the 'pit' is above the predicted groundwater recovery levels and is also free draining (for surface water).

In this instance, when considered in combination with the stage 1 mining activities, the Moolarben Mine Complex mine plan design results in three permanent voids (assuming Modification 9 is approved and implemented). Less than 1 km away, Wilpinjong would also leave a void on its mine site, east of the stage 2 pit void lake.

The Commission considers that as mining progresses over the next 20 years, pit void lakes will eventually become an unacceptable legacy of mining operations. The Commission acknowledges that there is no clear policy to prohibit the inclusion of pit void lakes at present, and that goals to avoid pit void lakes are most easily able to be met if they are included in the initial mine planning and feasibility phases. With this in mind, the Commission notes that it has been maintaining consistent criticism of pit void lakes for some years now and that a stronger, best practice position should be applicable to all newstate significant development mining applications.

In this instance, the Commission considers that there may still be scope to reduce the number of voids proposed to be retained across the entire mine complex. Two of the final voids in the stage 1 project area are designed to provide access to the underground mine domains, while the third void would be left at the end of mining in open cut pit 4. The Commission considers that further consideration should be given to options to adjust the mine plan to ensure that no more than two final voids are included in the final post mining landform for the complex.

#### Out of Pit Emplacement Areas

The landform for the complex also includes out of pit emplacement areas adjacent to each of the four open cut pits to be mined. The Commission considers that further consideration of options to reduce the size of the out of pit emplacement area, particularly for stage 2 should be pursued. The out of pit emplacement should particularly avoid impacts on endangered ecological communities. The distance between pit 2 and pit 4 is relatively small and the emplacement of at least some of this material in pit 2 appears to be a realistic option which should be considered to minimise out of pit emplacement.

**Recommendations:**

The Commission recommends that further consideration should be given to options to adjust the Mine Plan to ensure that no more than two final voids are included in the final post mining landform for the complex.

Further consideration of options to reduce the size of the out of pit emplacement area, particularly for Stage 2 should be also pursued.

**8.2 Production Levels**

The Commission notes the Preferred Project Report provides for 13 million tonnes of product coal whereas the draft conditions allow for up to 17 million tonnes of coal to be exported from the site each year. The Commission recommends this anomaly be reviewed with the project application.

**8.3 Subsidence**

The Commission considers that subsidence and its uncertainty equates to land form risk for the community which therefore requires a robust risk assessment to be undertaken with a requirement for ongoing monitoring and consideration of a Trigger Action Response Plan (TARP). This assessment would require a focus on subsidence effects, impacts and their consequences.

**Recommendation**

The consideration of the Stage 2 project application should include provision for ongoing monitoring for subsidence in addition to a Trigger Action Response Plan (TARP).

## **9. Conclusion**

The Commission in reviewing the Terms of Reference for the Stage 2 and Stage 1 MOD 3 proposals has considered a broad range of environmental impacts. These included, inter alia, impacts for noise, impacts relating to the Drip, impacts on waters, impacts on biodiversity, impacts on air quality and the existence of final voids.

The majority of these impacts have possible solutions outlined in the recommendations. Where there may not be a solution, there are strategies available to manage these impacts to a level consistent with achieving the recommended performance measures.

Compliance will be critical for a number of these residual impacts, and biodiversity in particular will require a robust focus if the mine is to be approved, subject to the preparation of appropriate mitigation measures.

The Commission considers that these residual impacts will need to be addressed prior to the project being submitted to the Commission for determination.

The potential impact on the Drip was raised by the community as a significant concern. The Drip is a significant and iconic natural feature which the Commission agrees should be protected. The ownership and land tenure of the Drip was of particular concern with strong support for its inclusion within the Goulburn River National Park. The legal framework for the transfer of the Drip to Goulburn River National Park is being reviewed by the Department and proponent, however it is acknowledged this will take time and subsequently will be addressed by the Commission during its determination for MOD 9.

The Commission is of the view that the residual impacts that have been identified must be reduced in line with the Commission's recommendations to grant approval to the project subject to conditions.

## **10. Recommendations – Consolidated Summary**

In considering the project and its potential impacts the Commission has identified a number of areas where the Mine Plan could be improved. The Commission has consolidated these and other recommendations from the various sections of the report into this final consolidated list of recommendations on the project.

### **Regional Biodiversity Strategy**

The Commission recommends that a Regional Biodiversity Strategy should be prepared to set out the long-term framework for consistent and coordinated planning, management and monitoring of offset areas that will add to and/or complement existing and proposed conservation areas and corridors. As part of the Regional Biodiversity Strategy, consideration should be given to a Regional Biodiversity Conservation Fund to be administered by an expert panel identifying priorities for expenditure to achieve strategic objectives for the region. The strategy and fund should include provision for incentive payments for private landholders demonstrably contributing to achievement of regional conservation outcomes.

The regional biodiversity strategy should also be required to give consideration to woodland bird recovery objectives and to consider supplementary measures that may be able to be introduced to support the recovery of woodland birds in conjunction with existing studies and efforts such as those currently underway for the Regent Honeyeater and Swift Parrot.

### **Office of Environment and Heritage**

The Commission considers that the Office of Environment and Heritage's recommendation of 2 April 2014 are reasonable and should be given careful consideration in the drafting of conditions for the mine.

### **Water**

The Water Management Performance Measures should be reviewed and strengthened in the final conditions to ensure local and regional impacts over time are detected early and appropriate mitigation measures are implemented to mitigate identified impacts. In this regard the Commission suggests the performance measures:

- should not only cover impacts on water quality, but should also cover impacts on water quantity, along with appropriate monitoring to ensure compliance with this measure;
- should require mine water storage to be designed to prevent offsite discharges of mine (dirty) water, including adequate freeboard to account for potential intensification of extreme events as a result of climate change;
- should require tailings, acid forming and potentially acid forming materials to be emplaced, encapsulated and capped in pit in such a way as to prevent the migration of pollutants beyond the pit shell (no out of pit emplacement of these materials should be allowed);
- should include requirements for the pit voids to contain adequate freeboard to prevent discharge of surface water;
- should include trigger levels and water quality objectives developed by considering both the existing site specific water quality data (or pre-mining data where this is available), and ANZECC 2000 guidelines, with the most stringent criteria to be adopted;
- should ensure that the riparian vegetation is appropriately re-established along the realignment, and that aquatic biodiversity is also restored throughout the creek; and
- the Proponent is to ensure it has sufficient water for all stages of the project and adjust the scale of operations to match the available water supply. The management of water supply is to also include provision for forward planning, to ensure that water supply constraints do not compromise any aspect of the environmental performance of the mine.

The Water Management Plan requirements should include:

- reference to the Water Management Performance Measures set out in the previous condition;
- reference to the Office of Water's additional monitoring requirements;
- reference to the National Water Quality Management Strategy;
- monitoring to characterise the Drip's water source; and
- a plan to respond to any monitoring that is inconsistent with the model and the predicted impacts on local and regional water resources.

### **Air Quality**

The current long term impact assessment criteria and acquisition criteria for annual average PM10 levels should be reviewed against the WHO goal of 20 µg/m<sup>3</sup>.

The commitment to work with NSW Education to deal with dust and noise impacts to the Ulan Public School should be included as a condition of approval for Stage 2.

The modelled air quality impacts that the Commission has considered are based on the use of a conveyor between open cut pit four and the coal handling and processing facility. Any approval should be for use of the conveyor rather than any other means of transport.

Given that the national 24 hour PM10 criterion is 50 µg/m<sup>3</sup>, the Commission considers that the acquisition criteria should be reviewed in consultation with NSW Health and the EPA. The Commission recommends that revised acquisition criteria should be developed in consultation with NSW Health and the EPA prior to any final approval of this project.

The Commission does not agree with the draft changes to the conditions relating to air quality and recommends that the conditions for Stage 2 are drafted to be consistent with the existing conditions for Stage 1, wherever possible.

### **Mine Plan – Final Void**

The Commission recommends that further consideration should be given to options to adjust the Mine Plan to ensure that no more than two final voids are included in the final post mining landform for the complex.

Further consideration of options to reduce the size of the out of pit emplacement area, particularly for Stage 2 should be also pursued.

### **Subsidence**

The consideration of the Stage 2 project application should include provision for ongoing monitoring for subsidence in addition to a Trigger Action Response Plan (TARP).



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## **List of Appendices**

- i. Terms of Reference
- ii. List of Speaker at the Public Hearing
- iii. Submission and Presentations made at the Public Hearing

**APPENDIX 1**  
**TERMS OF REFERENCE**

**Request to the Planning Assessment Commission**

**Moolarben Coal Stage 2 &  
Stage 1 Modification (MOD3) Project**

**Section 23D of the *Environmental Planning and Assessment Act 1979*  
Clauses 268R and 268V of the *Environmental Planning & Assessment Regulation 2000***

I, the Minister for Planning and Infrastructure request the Planning Assessment Commission to:

1. Consider the Department of Planning & Infrastructure's preliminary assessment of the merits of both applications for Stage 2 of the Moolarben Coal Project, including the EA and PPR for the project, submissions, the response to submissions, and any other relevant information provided to the Department during the assessment process or the PAC during the review process;
2. Review the merits of Stage 2 of the Moolarben Coal Project, paying particular attention to the potential biodiversity impacts of the project;
3. Hold public hearings during the review as soon as practicable after receiving the Department of Planning & Infrastructure's preliminary assessment of the project; and
4. Submit its final report on the review to the Department of Planning and Infrastructure within one month of holding the public hearings, unless the Director-General of the Department of Planning & Infrastructure agrees otherwise.



**The Hon Brad Hazzard MP**  
**Minister for Planning and Infrastructure**

Sydney

2013

06 DEC 2013

## APPENDIX 2

### LIST OF SPEAKERS AT THE PUBLIC HEARING

- Yancoal Australia, Frank Fulham
- Hunter Environment Lobby, Jan Davis
- Lock the Gate Alliance, Stephen Phillips
- Shellee Aitken
- Nathan Davis
- Cindy Picton
- Ian Simpson
- James Wormald
- Joe Adendorff
- Cameron Ballantine Jones
- Wendy Wales
- The Nature Conservation Council of NSW - Don White
- Mudgee District Environment Group Bev Smiles, Chairperson
- Phillip English
- Goulburn River Stone Cottages Julia and Colin Imrie
- Julia Imrie
- Phyllis Setchell
- Hugh Bateman
- Jane Munro
- Colin Imrie
- Ross Granata
- James Thompson
- Veronica Burns
- Peter Lovett
- Greg Dowker
- Anthony Ross
- Read on behalf of Wendy White
- Trevor Adams
- Jon Chapman
- Adam Keightley
- Scott McDonnell
- Rob Lonergan

- Kate Mckittrick
- Dallas Lawry
- Hunter Community Network, Ted Finnie
- Bruce Birchall
- Wayne Pym
- Roy Aguirre
- Catherine Anderson
- Scott Fittler
- Greg Stevens
- Rupert Sheridan
- Cassandra McDonald
- Robert Campbell
- David Stokes
- Central West Environment Council, Chris Pavich
- Caitlyn Gilbert
- Katherine Simpson
- Jolieske Lips
- Grant Gjessing
- Russell Holden

## APPENDIX 3

### SUBMISSIONS AND PRESENTATIONS MADE AT THE PUBLIC HEARING

Copies of the publicly available submissions along with the presentations and speeches made during the public hearing (that were later provided to the Commission in written form) are available on the Commission's website, <http://www.pac.nsw.gov.au>. A brief summary of the issues raised at the Public Hearing is provided below.

Issues	Submissions presented at the Public Hearing
The Drip	<ul style="list-style-type: none"> <li>• Both supporters and objectors largely agreed that the Drip is significant and should be protected.</li> <li>• Some suggested the proposal should be rejected to ensure the Drip is not impacted and others considered the mine should be designed to ensure the Drip is protected.</li> <li>• The iconic nature of the Drip was emphasised along with its tourism and educational value.</li> <li>• The ownership and land tenure of the Drip was of particular concern with strong support for its inclusion within the Goulburn River National Park.</li> <li>• The Draft wording of conditions which state "no more than negligible impact" was said to be insufficient and meaningless, others indicated they are comfortable with the assessment undertaken by Planning and Infrastructure.</li> <li>• The level of knowledge about the aquifers supplying the Drip and the potential size, connectivity and hydraulic gradients within these aquifers was said to be insufficient to allow any mining in the area</li> <li>• Some objected to the 'enhancements' proposed by Moolarben, including advice that the 'theme park' approach was insensitive.</li> <li>• The Proponent's responsibility was questioned given it has not agreed to donate the Drip and surrounds to the Goulburn River National Park.</li> </ul>
Comments in support of the mine & mining in the region in general	<ul style="list-style-type: none"> <li>• Suitability of the resource i.e. it is a significant resource, sits between existing mining operations, is close to the Ulan Road and rail line and would have synergies with the existing stage 1 mining operation.</li> <li>• Highly unlikely to have adverse impacts on the Drip which is 6 km to the north.</li> <li>• Major economic benefits, including jobs, capital investment, contributions to Council for mine employees and Ulan Road.</li> <li>• Biodiversity offsets said to be a significant increase from the original project and include habitat for all known threatened species on the mine site.</li> <li>• That mining, tourism and agriculture are able to coexist in the Mudgee region.</li> <li>• That the mine provides local jobs, which offers an alternative to the other fly in fly out mining work available and associated lifestyle impacts.</li> <li>• That the mine contributes to local community groups, the hospital and Rural Fire Service, provides funding for Council and royalties to the State.</li> <li>• That expansion of the mine will increase growth and investment opportunities in Mudgee, as well as health and education services, with suggestions Mudgee's population does not have a critical mass capable of sustaining itself without the mines.</li> <li>• That mining drought proofs businesses in Mudgee</li> <li>• The coal is readily accessible, being so close to the surface.</li> <li>• The area does not suffer from the cumulative impacts seen in the Hunter Valley.</li> <li>• It was said that the Proponent is a good, responsible employer with high regard for safety, community, workplace culture and staff development, as</li> </ul>

Issues	Submissions presented at the Public Hearing
	<p>well as good environmental standards, state of the art technology, investment in noise attenuation, ceasing production to avoid noise and dust exceedences, focus on rehabilitation and said to be best mining practice.</p> <ul style="list-style-type: none"> <li>• That the land proposed to be mined is marginal and ideally suited to mining</li> </ul>
Biodiversity	<p>Concerns raised included:</p> <ul style="list-style-type: none"> <li>• Impacts on threatened species and endangered ecological communities, particularly the critically endangered Regent Honeyeater;</li> <li>• That the area is a significant biodiversity hotspot, with high quality, significant conservation and habitat values;</li> <li>• That the immediate losses cannot be replaced or quickly restored;</li> <li>• The cumulative impacts of mining locally – particularly for valley floor habitats, as well as regionally with the Cobbora Coal Mine;</li> <li>• Uncertainty and our limited understanding of the ecological systems that would be destroyed</li> <li>• The accuracy of the biodiversity assessment and mapping was questioned;</li> <li>• That the proposed offsets will not mitigate the impacts, including due to the site fidelity of certain species;</li> <li>• Offsets should be within the same bioregion;</li> <li>• Offsets have not been verified;</li> <li>• The long term security of the offsets including uncertainty regarding the mechanism to be used and the current exploration activities and licences on some of the land and calls for offsets to be transferred to National Park.</li> <li>• Impacts on groundwater dependent ecosystems.</li> <li>• Draft conditions were said to be of limited value and regulation of offsets was considered uncertain.</li> <li>• The viability of rehabilitation proposed was questioned, especially given the impacts of changing climate.</li> </ul>
Health	<ul style="list-style-type: none"> <li>• Human health impacts, especially from dust, as well as loss of community and social support.</li> <li>• Exceedence of the National Standard for PM<sub>10</sub> in Ulan Village would put health of school children at risk.</li> <li>• Need for further work on air quality standards.</li> </ul>
Air Quality	<ul style="list-style-type: none"> <li>• Particularly dust, as well as blast fumes.</li> <li>• No confidence in assessment and modelling given large buffer areas have had to be purchased around the stage 1 mine site.</li> <li>• The mine would compound the existing cumulative air quality issues.</li> <li>• Proposed acquisition criteria of 150ug/m considered inappropriate as way above National Standards.</li> </ul>
Water	<ul style="list-style-type: none"> <li>• Surface and Groundwater impacts not considered to be adequately assessed.</li> <li>• Water quality impacts including mine discharges and breaches of the existing approval and the diversion of creeks through areas of spoil, water above the junction with mine discharge points is said to support more aquatic life than downstream.</li> <li>• Water quantity, particularly impacts on the Goulburn River, as well as aquifers, impacts to local springs which provide domestic supply to some properties was also raised</li> <li>• Long term impacts of the final void proposed.</li> <li>• The modelling undertaken was questioned with concerns about the predictions both for water quantity and quality, the modelling was not</li> </ul>



Issues	Submissions presented at the Public Hearing
	<p>thought to be reliable and long-term predictions were thought to be unrealistic, particularly as nil discharge mines in the area have ended up with flooding and other water surpluses and the need to discharge water.</p> <ul style="list-style-type: none"> <li>• Cumulative impacts, particularly on the Goulburn River.</li> <li>• It was suggested an independent regional water study and a comprehensive assessment of the Hunter Salinity Trading Scheme is needed.</li> <li>• That there is limited monitoring of salinity in the Hunter River.</li> <li>• That the licence conversion would have significant impacts on the creek as cease to pump rules would not be able to be applied.</li> <li>• The integrity of the official advice from the NSW Office of Water was also questioned.</li> <li>• Impacts of underground mining the approved stage 1 area of the mine.</li> <li>• The adaptive management plans provided in the draft conditions recommended by Planning and Infrastructure were said to leave the outcome uncertain, clear parameters were requested.</li> </ul>
Social and Economic impacts	<ul style="list-style-type: none"> <li>• The economic analysis and justification for the project were questioned particularly noting that the price of coal is falling due to oversupply, yet the mine's response is to mine more coal at a faster rate.</li> <li>• Input output models have limited accuracy and should be treated with caution.</li> <li>• Short term job creation and royalties, but no job security</li> <li>• That the risks of mining do not outweigh the short term employment</li> <li>• That the costs are not internalised, they are born by the community, along with tax payer subsidies and special legislative exemptions</li> <li>• That the natural capital value has not been accounted for.</li> <li>• Social impacts on local communities particularly Ulan and Wollar, including the depopulation impacts, only one private residents remains in Ulan and very few left on Wollar, this was described as a systematic removal of people.</li> <li>• The loss of social function and cohesion.</li> <li>• Landowners seen as collateral damage.</li> <li>• The Rural Fire Service is said to be non-existent.</li> <li>• Recent housing shortages in Mudgee and associated affordability issues and vulnerability to mining cycles.</li> <li>• Need for additional medical capacity</li> </ul>
Adequacy of the assessment	<ul style="list-style-type: none"> <li>• Concerns were raised about the modelling of various impacts, how the predictions have been derived and expressed and the suitability of criteria used.</li> <li>• Peer reviews required a technical panel, not just one person.</li> <li>• The Proponent's use of marketing and public relations campaigning was criticised.</li> </ul>
Noise and vibration	<ul style="list-style-type: none"> <li>• Independent Regional Noise Monitoring Network was called for and said to be supported by Council.</li> <li>• Noise impacts are said to be greater at night.</li> <li>• That low frequency noise has not been factored into the modelling</li> <li>• Some impacts said to be able to be felt 30 km away.</li> <li>• Vibration impacts including that properties are already affected with windows rattling from other mines</li> </ul>
Climate change	<ul style="list-style-type: none"> <li>• Concerns about the contribution to climate change and impacts of climate change.</li> </ul>

Issues	Submissions presented at the Public Hearing
	<ul style="list-style-type: none"> <li>• Need for coal power was questioned as renewable technologies are available.</li> <li>• The ability of the mine to manage water and dust under climate change scenarios</li> </ul>
Other	<ul style="list-style-type: none"> <li>• Traffic issues, indicating that the mines did not take responsibility for the roads issues and it was necessary for the State government to intervene.</li> <li>• Capacity of the rail line and concerns that coal may be diverted through other areas.</li> <li>• Loss of productive agricultural land, speakers indicating that farming operations are doing well on some property near the mine, but starting to be impacted by Wilpinjong and cumulative impacts from the Moolarben's proposed new open cut pit directly to the north of the property.</li> <li>• Loss of night skies (now opaque) and lighting impacts</li> <li>• Aboriginal cultural heritage</li> <li>• That the impacts of the approved Stage 1 underground mine should be reconsidered in this assessment.</li> <li>• The mine is said to have had some serious breaches of conditions</li> <li>• Cumulative impacts of mining, including pollutants.</li> <li>•</li> <li>• Legacy of mining impacts for future generations means it should be refused on grounds of intergenerational equity.</li> <li>• Transparency of the coal mining industry in managing and reporting its impacts.</li> <li>• Concerns that the mine may be unable to manage impacts.</li> <li>• The precautionary principle should be applied.</li> <li>• <b>The need for the project was questioned.</b></li> <li>• Concerns about the assessment and review process, the consultation process including the availability of information and the time available to consider it.</li> </ul>

## Meetings

### 7 February 2014 – Briefing from Planning and Infrastructure on Stage 2 and Mod 3

Planning and Infrastructure explained that the Stage 2 application had been through a long process, as the company had changed hands and the environmental consultants who had been engaged to do the work had also been changed a number of times throughout the process. Planning and Infrastructure advised that Stage 1 of the mine had caused both water and noise problems, and that the Proponent had been prosecuted for water discharges from the site. Nonetheless the site has low strip ratio, a relatively large coal resource and is serviced by existing infrastructure. Ulan Road had been a critical issue for the area, but the Commission was advised that the upgrade of the road has now been largely resolved, the only outstanding issue remaining to be resolved is who will do the work on the road.

Planning and Infrastructure noted some of the changes it was recommending to the conditions, including the new performance measures for water.

### 25 February 2014 – Site Visit and Briefing from the Proponent

The Commission was escorted around the site by the Proponent and the Proponent provided a briefing on the applications for Stage 2 and Modification 3, as well as Modification 9. The Proponent provided a summary of its applications, noting that the Drip is distant from the activities the subject

of the modifications and stage 2 extension, and that conditions within the approval for stage 1 were informed by an Independent Hearing and Assessment Panel process and Report. The proponent noted the Royalties, jobs and production outputs of the project and indicated it is one of the lowest cost open cut coal mining operations in NSW.

The reduction in the disturbance footprint through the preferred project report was highlighted, to avoid 33 ha of Endangered Ecological Community. The offsets were said to be equivalent or better than the areas to be disturbed and it was suggested that the offsets are 'like for like'.

In relation to noise, the Proponent indicated that the Dura Trays have been installed on 5 trucks and achieve a significant reduction in noise. The Proponent advised that complaints had reduced significantly since 2011-12 and a comprehensive real-time noise monitoring system is in place.

In relation to dust, the Proponent advised it has automatic spraying for dust and achieves best practice, with over 80% control.

### **27 February 2014 – Meeting with Mid-Western Regional Council**

A representative for Mid-Western Regional Council indicated that the Council supports the mine and the commitment to the Ulan Road Strategy. A community enhancement program commensurate with the model provided by the Cobbora Coal Mine was sought, for \$2.5 million. Funding per employee in line with the levels provided at Maules Creek (\$16,000 per employee) was also sought. It was noted that initially the VPA was to have been provided upfront, but now it's proposed to be provided in four instalments. Council indicated it would prefer to target some infrastructure and have this implemented.

It was noted there would be pressure on accommodation until operations commence and Moolarben's requirement for employees to live, or move to live locally provides a huge benefit to the town. Forward planning for growth of Mudgee is now in place to accommodate growth.

Council indicated it was satisfied with the assessment of the offset areas, but concerned by the loss of rates, expected to equal about \$20,000 a year. The importance of the Drip was noted and Council indicated it would rely on advice from the Office of Environment and Heritage regarding suitable areas for National Park.

In relation to noise, the original statement of commitments was said to indicate the mine would purchase properties were there was a disagreement; however this has been change to attenuation instead.

### **P&I 3 March 2014**

On Monday 3 March 2014 the Commission met with Planning and Infrastructure representatives. The Commission noted the correspondence it had received from the NSW EPA, particularly the comments relating to noise. The Commission advised it was considering applying a lower acquisition criteria for noise. Planning and Infrastructure indicated that the Government's policy nominates 40 dBA as the appropriate night time rural amenity criteria.

The Commission noted it had been contacted by representatives for Dronvisa, Planning and Infrastructure advised it understood there was no development consent to extract the resource.

The Commission requested clarification on whether spontaneous combustion was an issue for the site and was advised that Moolarben has not had any issues to date but that Wilpinjong mine to the east, had some difficulties and was extracting the same coal seam.

The Commission noted concerns had been raised at the public hearing regarding the consultant who undertook the biodiversity surveys. Planning and Infrastructure advised it was not aware of any evidence to say the consultant had given any false or misleading information.

In relation to the strategic context and potential for regional biodiversity offset strategies to be of benefit, the Commission was advised that Ulan is not expected to be seeking any additional mining areas in the near future, but that Wilpinjong may be looking to mine additional areas in the vicinity of its existing mine.

#### **27 March 2014 - EPA**

Clarified that the letter was intended to explain the community's concerns and is not necessarily consistent with Government policy. EPA noted there are two main groups of people in the area, those who have moved there for a quiet life, usually retirement, and those who find the location affordable and may not have the time and capacity to interpret the volumes of information, or wish to present in public. Experience to date suggests that a negotiated outcome often provides the most workable solution for both parties, limiting options to architectural treatments was not expected to resolve the concerns and complaints from many residents.

#### **27 March 2014 - OEH**

OEH advised a cross government committee had been established to try and agree on a suitable area of land around the Drip to be dedicated to the National Park, but that negotiations had stalled. The Commission advised it was clear that the issue needed to be resolved and that it was confident practical options are available. It was noted that the issue had been elevated and was now being considered at a higher level within government.

OEH advised the offsets proposed are still deficient, both in the matching and quantum. The draft framework for biodiversity assessment was noted, which includes reference to mine rehabilitation. The cumulative impacts on productive landscapes – the foot slopes and side slopes which provide rich habitat for woodland birds, particularly the Regent Honeyeater was noted. OEH committed to provide a written submission, which was subsequently submitted.

#### **27 March 2014 - NOW**

The Office of Water advised that the Stage 1 modifications were relatively straightforward, but confirmed it had had some initial concerns with the Stage 2 application. Particular concerns had come from the need to convert surface water licences to alluvial licences, which required consideration of other users and the environment. NOW advised that it is now satisfied this proposed trade is acceptable.

Groundwater modelling concerns were also noted and NOW indicated the model was not the only reasonable interpretation of the data. Further modelling of the worst case scenario has now satisfied NOW that the risks are manageable and will be informed by future monitoring as mining progresses. NOW indicated that from its perspective the Planning and Infrastructure Assessment Report is accurate.

NOW also noted that there is a consensus that the Drip is supplied by a perched aquifer.

#### **27 March 2014 – P&I For Mod 9 Report**

On 27 March the Commission met with a Planning and Infrastructure representative regarding the land tenure of the Drip. The Commission was advised that progress was being made to agree on a suitable parcel of land to be incorporated into the Goulburn River National Park. The Commission

emphasised it would not determine Modification 9, until this issue was resolved. The Commission also noted it was concerned by the large number of changes to the conditions that had been recommended. It was agreed that the Commission would write to Planning and Infrastructure to seek clarification on these conditions.