



Date: 20 April 2015
Your reference: 08_0184 MOD3
Our reference: DOC15/126529
Contact: Liz Mazzer 68835335

Paul Freeman
Senior Planner, Mining Projects
GPO Box 39
Sydney NSW 2001

Dear Paul

RE: Ulan Continued Operations Project MOD 3

I refer to your requests seeking comment from the Office of Environment and Heritage (OEH) on the proposed modifications to Ulan West.

OEH understands that the proposed modification, if approved, would result in an approximately 13% increase in the total area of subsidence affectation associated with the Ulan Coal – Continued Operations Project (UCCO Project). If approved, the modification will increase the Ulan West underground mining area by approximately 275ha, reduce the length of Longwall 5 by approximately 170m and increase the length of longwall 6 to longwall 12 by 900m to 1300m.

Changes to the Ulan West mine plan would also require repositioning of approved (but as yet unconstructed) ventilation shafts and dewatering bores, as well as the installation of additional ventilation shaft and associated infrastructure.

OEH considers that, prior to making a decision the Department of Planning and Environment (DP&E) should be fully satisfied that the current operations of Ulan Coal have been conducted in full accordance with the current Project Approval for application number 08_0184.

Detailed comments and our recommendations are provided in Attachment A.

If you have any questions regarding this matter please contact Liz Mazzer on 02 6883 5325 or email liz.mazzer@environment.nsw.gov.au

Yours sincerely

SONYA ARDILL
Senior Team Leader Planning, North West Region
Regional Operations

Attachment A: OEH review of Ulan West Modification

ATTACHMENT A**OEH review****Ulan West Modification**

Acronyms

ACH	Aboriginal Cultural Heritage
DP&E	Department of Planning and Environment
EA	Environmental Assessment
OEH	Office of Environment and Heritage
RAPs	Registered Aboriginal Parties
TEC	Threatened Ecological Community
UCCO	Ulan Coal – Continued Operations Project

1 Aboriginal Cultural Heritage

OEH notes that the proposed modification has altered the original number of Aboriginal sites that will be harmed, and that in response the proponent has revisited management strategies for those sites within the proposed extension area. OEH is satisfied with the adequacy of information gathered for the proposed addition areas, which includes the survey methods used and the consultation undertaken with the Registered Aboriginal Parties (RAPs).

The Aboriginal Cultural Heritage (ACH) assessment report has recommended, as part of the proposed management strategies, to conduct salvage excavations in select locations. OEH would prefer that suitable research questions are developed for the salvage operations and in partnership with the RAPs prior to developing amendments to the Heritage Management Plan. OEH's reason is that there is now an extensive body of data on Aboriginal heritage sites within and adjacent to the UCCO Project area and that this data is suitable for developing research direction that can contribute to mitigating the incremental impacts to heritage across the mine site.

In addition, OEH notes the request from the Wellington Valley Wiradjuri Aboriginal Corporation (letter dated 15/4/2015) with regard to examining the cost benefit of mitigation, and offsetting instead with RAP projects such as a heritage centre or education program.

OEH is available to discuss these ACH matters further with DP&E and the proponent.

Recommendations

- 1.1 That suitable research questions are developed for the salvage operations in partnership with the RAPs prior to amending the Heritage Management Plan.

2 Subsidence and the scope of environmental assessment

With regard to subsidence, section 5.2.3 of the EA states,

The maximum vertical subsidence prediction has increased from the UCCO Project assessment. The magnitude of subsidence is greater in the lower depth of cover areas associated with the modified Ulan West mining area and the nominal mining height used for assessment purposes has increased from 2.9 metres in the UCCO Project assessment to 3.2 metres in the modification assessment.

Table 5.2 of the EA indicates that maximum vertical subsidence, predicted to be 1.6 m in the UCCO Project assessment, has increased to 2.1m with the proposed modification.

The summary provided in the *Subsidence Assessment for Proposed Ulan West Mine Modification Longwalls 3 to 12* states,

The higher magnitude maximum subsidence used for assessment purposes in this assessment compared to the approved Ulan West mine plan is not expected to have any practical significance because none of the features located above the area are particularly sensitive to the magnitude of maximum subsidence and actual maximum subsidence in the central part of each longwall panel is expected to be generally much less than maximum values typically in the range of 0.9-1.5m and 1.6-1.8m in the shallow cover areas. Subsidence over the chain pillars is expected to increase with overburden depth ranging from 0.2m in shallower cover areas up to approximately 0.5m in the deeper areas.

OEH is concerned that the environmental assessment (EA) makes statements that broadly compare the impacts of the proposed modification with the currently approved project without clearly substantiating claims made.

For example, in relation to the Talbragar Fish Fossil Reserve, section 5.2.4.5 of the EA (and section 4.6 of the Subsidence Assessment) simply states,

The changes to the mine layout associated with the proposed modification are not expected to have any significantly different impact on the Talbragar Fish Fossil Reserve compared to the impacts of the mining layout described in the approved UCCO Project. Mining subsidence is expected to cause lowering of the ground surface and possible surface cracking. However, given the fragmented nature of the chert beds and the low strength nature of the underlying strata, it is considered likely that mining subsidence movements would be accommodated without significant disturbance to the fish fossil beds.

There is no discussion in the EA regarding the extent of subsidence predicted for the Fish Fossil Reserve, nor the extent to which this has changed given the proposed repositioning of the longwalls and pillars in relation to the Reserve. It is noted that condition 24 of the current Project Approval requires negligible subsidence impact on the Talbragar Fish Fossil Reserve.

In general, there is no discussion of any specific environmental impacts that the proposed westerly shift in longwall positions might have on particular features of significance. This is of concern given statements in the Subsidence Assessment such as,

Recommendation

- 2.1 That the predicted change in subsidence with the relocation of the longwalls, and the impacts of this on features of significance, be clearly quantified.

3 Offsets

The *Ulan West Modification Ecological Assessment* concludes that there will be an overall 2ha increase in the total area of native vegetation cleared for the proposal compared with the UCCO. OEH notes the Proponent's efforts to avoid areas of significant native vegetation (such as White Box

Woodland) when relocating surface infrastructure, resulting in a decrease of 14.4ha of White Box Woodland being impacted.

Section 1.2 of the Ecological Assessment lists a number of objectives of the assessment, including, *provide recommendations on any offsetting required for residual unavoidable significant impact to threatened or migratory species, endangered populations, TECs, or their habitats recorded (or with potential to occur) in the proposed modification areas.*

While the Ecological Assessment does not identify any significant impacts, no discussion is provided regarding offset requirements.

OEH notes that the current Project Approval for 08_0184 includes Condition 43 *Long Term Security of Offset*. This condition requires,

Within 1 year of the date of final Orders being made by the Land and Environment Court in proceedings No. 10998 of 2010, the Proponent shall make suitable arrangements to provide appropriate long term security for the Bobadeen Vegetation Offset Area, the Bobadeen East Offset Area, the Brokenback Conservation Area, the stand of Acacia ausfeldii along the eastern side of Highett Road and the Spring Gully Cliffline Management Area to the satisfaction of the Director-General.

There is no information in the EA or the Environmental Assessment regarding the status of these offset areas, or whether this condition has been fulfilled.

Recommendations

3.1 That details of the offset areas listed in Condition 43 be provided, including:

- Objectives of each offset area,
- Management actions that have been implemented
- Mechanisms used to provide long term security of the offsets

3.2 That the offset requirements of the modification be assessed.

4 *Acacia ausfeldii*

Section 3.1.6 of the Ecological Assessment states that,

The 2013 surveys...did identify additional Ausfeld's wattle (Acacia ausfeldii) locations in the south-west UCCO Project boundary.

There is no indication in the EA of where these locations are or whether there is any intent to manage these specifically. In addition, Appendix E of the Ecological Assessment, containing the test for ecological significance for Ausfeld's wattle states that,

UCML manages an offset area specifically dedicated to protecting this species in the south west of the Ulan Coal Complex along Highett Road.

Condition 43 of the current Project Approval describes this area as,

...the stand of Acacia ausfeldii along the eastern side of Highett Road...

There is no further information included in the EA or Ecological Assessment regarding the size or location of this offset area. There is also no indication of the size of this population of Ausfeld's wattle, or the management actions that have been undertaken to date.

Recommendations

4.1 That the additional Ausfeld's wattle locations, and any intended management actions, be provided.

4.2 That detail is provided regarding the Highett Road Ausfeld's wattle population. This should include a map at an appropriate scale depicting the areal extent of the population, the status of the offset security, and the management actions that have been implemented.

5 Cliff lines

Table 5.4 of the Ecological Assessment predicts that a total of 12,659.4 metres of cliff line is located within the Maximum Subsidence Affection Area, approximately doubling the length of cliff line included in the currently approved development area. It is predicted that there is a 20% probability of rock fall in this area. The area of predicted cliff line impact is therefore now 2,538.9 metres, an increase of 1,255.9 metres when compared to the currently approved development.

The Ecological Assessment states that the impact of subsidence on cliff line habitat within the proposed modification areas could potentially involve impacts on cave habitats, and therefore potential impact on cave-dependent species, including threatened micro-bat species.

Monitoring of micro-bats, focussing on the cave-dependant Large-eared Pied Bat (*Chalinolubus dwyeri*), Eastern Bentwing Bat (*Miniopterus schreibersii oceanensis*) and Eastern Horseshoe Bat (*Rhinolophus megaphyllus*) has been conducted at Ulan Coal Complex since 1994. The Ecological Assessment is unable to conclusively exclude the potential for breeding and/or roosting of this species in the cliff lines of the proposed modification areas, and assumes their potential presence.

The Ecological Assessment recommends that the current monitoring program be extended (where necessary) to include monitoring of the anticipated impacts resulting from the proposed modification. Particular emphasis should be placed on the monitoring of micro-bats and cliff line habitats within the proposed modification areas.

While OEH concurs with the extension of the monitoring program, we are concerned that, despite the doubling of the area of predicted cliff line impact and the assumption that this area may be used by micro bats, the Ecological Assessment and EA do not provide any options for avoidance and/or mitigation measures to reduce the potential for cliff fall. The assessments also do not provide a review of offset requirements or any information regarding the objectives, security and management of the Spring Gully Cliffline offset area.

Recommendations

- 5.1 That options for avoidance, mitigation and offsetting of cliffline impacts be considered.
- 5.2 That detail regarding the Spring Gully Cliffline offset area be provided as per recommendation 3.1.

6 Groundwater and surface water

While no groundwater dependent ecosystems were identified within or nearby the proposed modification area, OEH has concerns regarding the potential impacts of changes to groundwater and surface water on riparian vegetation.

It is noted that the current Project Approval (condition 39) requires a Groundwater Monitoring Program to monitor and/or validate the impacts of the project on riparian vegetation along the Goulburn and Talbragar Rivers and associated creeks.

Condition 40 of the Project Approval requires a Surface and Ground Water Response Plan, which must describe what measures and/or procedures would be implemented to mitigate and/or offset any adverse impacts on riparian vegetation.

No assessment has been provided in the EA of the results of these monitoring programs and plans to date. This is of particular concern given statements such as:

From the Subsidence Assessment summary:

Water bores and groundwater seeps located directly over the longwall panels are expected to dry up as a result of mining subsidence movements. Although it is possible that some of these may return, alternative arrangements are considered likely to be necessary to supplement water supplies that rely on any bores located over and within close proximity of the proposed Ulan West modification area.

From section 4.3 of the Subsidence Assessment relating to watercourses:

There are several minor watercourses that have short sections of the creek flowing over rock outcrop. Mining subsidence is expected to cause fracturing of this rock strata with potential for flow diversion into the substrata with the effect that pools of water in ephemeral streams will tend to drain away more quickly after rainfall events than prior to mining and low flows may not be evident as surface flow. In creeks with sandy bases, a similar trend is likely within the underlying bedrock, but cracking is less likely to be evident at the surface because of the masking presence of surface materials. Downstream flows are likely to be reduced as some surface flow is lost into the sub-surface fracture network, either directly through occasional surface cracks or indirectly as a result of reduce water tables.

Section 5.4.2.2 of the EA states the following with relation to management of cracking of channels,

Cracking will appear rapidly on the surface after longwall mining. Regular checking and as necessary, resealing of in channel cracks will be undertaken. These progressive resealing works will reduce the potential for loss of surface flows due to subsidence cracking.

OEH considers that monitoring of subsidence impacts should lead to both remediation and to modifications of mining techniques to reduce additional impacts.

Recommendations

- 6.1 That measures and/or procedures to be implemented to mitigate and/or offset any adverse impacts on riparian vegetation be provided.
- 6.2 That monitoring of subsidence impacts should lead to both remediation and to modifications of mining techniques to reduce additional impacts.