



Your reference SSD_5251
Our reference: DOC13/84435
Contact: Liz Mazzer 02 6883 5325

Kane Winwood
Team Leader, Mining Projects
Department of Planning and Infrastructure
GPO Box 39
Sydney NSW 2011

19 November 2013

Dear Mr Winwood

RE: Dubbo Zirconia Project (SSD-5251)

I refer to your request, received on 15 October 2013, inviting comment from the Office of Environment and Heritage (OEH) on the Environmental Assessment (EA) for the Dubbo Zirconia Project.

OEH has responsibilities under the;

- *National Parks and Wildlife Act 1974* - namely the protection and care of Aboriginal objects and places, the protection and care of native flora and fauna and the protection and management of reserves; and the
- *Threatened Species Conservation Act 1995* which aims to conserve threatened species of flora and fauna, populations and ecological communities to promote their recovery and manage processes that threaten them;
- *Native Vegetation Conservation Act 2003* – ensuring compliance with the requirements of this legislation.

OEH can provide advice on the Environmental Assessment Report (EA) where the EA deals with natural and cultural heritage conservation issues. OEH may also comment on the legitimacy of the conclusions reached regarding the significance of impacts by the proposed development to these components of the environment.

OEH has concerns regarding components of the proposal, particularly the powerline, being omitted from this assessment. There are also some aspects of the flora and fauna assessment that require further investigation and consideration. Aspects of the Aboriginal Cultural Heritage Management Plan also need clarification. OEH's comments are provided in Attachment A.

If additional information relating to the proposal indicates that areas within the OEH's responsibility require further investigation, we may provide future input. Should you require further information please contact Liz Mazzer, Conservation Planning Officer on (02) 68835325 or email liz.mazzer@environment.nsw.gov.au.

Yours sincerely

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

SONYA ARDILL
Senior Team Leader Planning
North West Region

Attachment A: OEH response to the Dubbo Zirconia Environmental Assessment

Dubbo Zirconia Project

Response to the Environmental Assessment for Development Application SSD 5251 (September 2013)

Acronyms

ACHMP	- Aboriginal Cultural Heritage Management Plan
BBAM	- Biobanking Assessment Methodology
BBSB	- Brigalow Belt South Bioregion
DZP	- Dubbo Zirconia Project
ETL	- Electricity Transmission Line
EEC	- Endangered Ecological Community

1. Certain project components are not included in the project scope

The EA covers the construction and operation of project components, including:

- open cut mine, processing plant and associated facilities on the DZP site,
- a water pipeline to the Macquarie River,
- rail line upgrade between Toongi and Dubbo,
- gas pipeline installation, and
- road upgrades of Obley and Toongi Road.

Section 1.1 of the EA states,

It is also noted that the Proposal also requires the construction and operation of a new 132kV electricity transmission line (ETL) from an existing sub-station to the south of Geurie to Toongi. However, as the ETL would be owned and operated by Essential Energy, a separate application will be made for this 'activity' under Part 5 of the EP&A Act by the Applicant.

As stated in our adequacy assessment provided to the Department of Planning on 29th July 2013, OEH is of the opinion that, as the ETL is required for the operation of the Zirconia Project, a full assessment of the impacts of the powerline should have been included with this EA. In particular, any impacts on native flora and fauna should be quantified and included as part of the offset calculations.

The EA also briefly discusses a proposal to establish a limestone quarry near Geurie (section 2.1.4). An environmental assessment of the limestone proposal has not been included as part of this EA, and it is intended to make a separate application to Wellington Shire Council for this component. It is noted that an alternative, established, source of limestone may be used as an alternative.

Recommendations

- 1.1** That the proponent commits to thorough environmental assessments for both the proposed powerline and the limestone quarry, with these assessments to include detailed flora, fauna and cultural heritage studies as well as considering the cumulative impacts of all components relating to the DZP.
- 1.2** That the impacts on native flora and fauna for the powerline and limestone quarry are quantified using the Biobanking Assessment Methodology (BBAM) and an adequate offset package formulated.

2. Avoidance of significant native vegetation

The development includes 0.1 hectares of the EEC Fuzzy Box – Inland Grey Box on alluvial brown loam soils of the NSW South Western Slopes Bioregion and Southern BBS Bioregion (CW 318).

It is clear from Figure 17 that significant efforts have been made to avoid impact on vegetation types such as White Box – White Cypress Pine – Inland Grey Box Woodland EEC. The proposed disturbance area within the DZP site is 807.5 ha. Of this, 213 ha is described as Cleared while the remainder is native vegetation, a significant of proportion (414 ha) of which is low condition Derived Native Grassland. The proponent should be commended for these avoidance measures.

23.4 ha of Fuzzy Box woodland occurs within the DPZ site of which 0.1 ha will be impacted. The impacted area is described as “essentially paddock trees in a cropping area”. The EIS states that the project was redesigned to reduce the impacts on Fuzzy Box Woodland EEC to 0.1 ha, however it does not state why further avoidance of the remaining 0.1 ha was not possible. Indeed, section 4.7.5.2.1 of the EA states,

It is likely that in final design of the LRSF, this 0.1ha would be avoided along with the remaining 21.9ha which would be protected in perpetuity within the proposed Biodiversity Offset Area.

Recommendation

- 2.1** OEHL requests that the remaining 0.1 ha of Fuzzy Box Woodland EEC is either avoided or a strong case be made as to why complete avoidance is not possible.

3. Errors in Biobanking calculations

Species Credits have been incorrectly calculated resulting in errors in the calculation of credits required to offset the development.

Section 8.3.3 provides an introduction to BBAM. The definition of Species Credits provided has been misinterpreted and has led to an error in inputting information into the BioBanking calculator.

The definition provided in the EIS is as follows:

Species Credits – *these are created or required for all impacts for impacts on threatened species that can not be reliably predicted to use an area of land based on habitat surrogates. Threatened species that require Species Credits are identified in the Threatened Species Profile Database. Species Credits are applied where a threatened species has been recorded but not predicted by the BBAM credit calculator (Pink-tailed Worm-lizard, Grey Falcon, Little Pied Bat, Square-tailed Kite and Little Eagle).*

The last sentence is not entirely correct. If a threatened species is recorded on the site but was not predicted to occur there, the species may be added to the list at Step 5f of inputting data into the credit calculator. Importantly, only species that require species credits may be added to the survey results.

Of the species specifically mentioned, only the Pink-tailed Worm-lizard and Grey Falcon generate Species Credit, the remaining three species generate Ecosystems Credits. In the case of the Grey Falcon the Threatened Species Profile Database includes the following notes regarding habitat constraints: *land within 100 m of riparian woodland on inland rivers containing mature living eucalypts or isolated paddock trees overhanging water or dry watercourses*. The habitat constraint for the Pink-tailed Worm-lizard is *land containing surface rocks (embedded or loose)*. On this basis, only the Worm-lizard should have been added to the list as a Species Credit.

Recommendation

- 3.1** OEHL requests that the BioBanking credit calculator be re-run in order to generate a correct credit report.

4. Impacts of increased road traffic on fauna

Section 6.5 of the Terrestrial Ecology Assessment lists likely indirect or operational impacts that may affect threatened fauna species. These include disruption to essential behaviour patterns and mortality caused by a number of factors including road traffic.

While there is some discussion of other impacts included in the EA, the potential impacts of increases in road traffic on fauna have not been included.

Recommendations

- 4.1 That the potential impacts of increased road traffic on fauna be assessed, and any practical mitigation measures included in the Statement of Commitments.

5. Identification of vegetation communities along water pipeline

Section 5.2.3 of the Terrestrial Ecology Report describes the Macquarie River Water Pipeline easement as passing through predominantly cropped and grazed paddocks. Section 4.6.2.3 indicates that additional surveys were conducted by OzArk over the Macquarie River Water Pipeline easement.

The description of vegetation communities along the route of the proposed Macquarie River Pipeline (Section 5.2.3 of the Terrestrial Ecology Report) largely relies on results from surveys conducted in 2002, and provides limited detail regarding the vegetation communities along this easement. Indeed, this section states,

As these paddocks are highly altered from the native vegetation communities that originally covered the route, no attempt was made by GCNRC (2002c) or OzArk to identify and map remnant vegetation communities.

Given its presence on the DZP site, it is possible that the pipeline easement contains derived native grassland. OEH considers that the vegetation along the Macquarie River Pipeline easement should be clearly identified, quantified and mapped using BBAM. Any native vegetation to be disturbed (including derived native grassland communities) should then be included in offset calculations.

Recommendations

- 5.1 That the vegetation communities along the Macquarie River Pipeline easement be clearly identified, mapped and quantified consistent with BBAM
- 5.2 Any native vegetation to be impacted along the Macquarie River Pipeline easement should be offset as part of the overall Biodiversity Offset Strategy.

6. Aboriginal Cultural Heritage

OEH has examined only the main broad elements of the Aboriginal cultural heritage assessment report consisting of;

- the spatial relationships between Aboriginal sites and landscapes within the project area
- landuse history and impacts to Aboriginal sites
- Significance statements.
- Aboriginal consultation

Summary

Approximately 25 Aboriginal sites are reported to be affected by the proposed development. A significant number of these are isolated finds, sites comprising of small artefact populations, and several scarred trees. Overall, OEH recognises the extensive landuse history described in the assessment report and acknowledges that pastoral and agricultural intensification has had an impact on Aboriginal heritage sites. Each of the sites recorded is reported to have evidence of landuse disturbance history and site significance assessment has been strongly influenced by this factor. OEH supports the documented spatial relationship between sites and water features in the project area overall.

Aboriginal sites and landscapes within the project area

The development proposal is located in a varied landscape setting. Examination of the landscape has formed part of the ACH investigation. The ACH assessment has selected Geological, Soil, and Mitchell Landscape mapping to describe landscape context and spatial relationship with Aboriginal sites (Figure 52: p 8-107).

OEH has further examined the distribution of Aboriginal sites listed in the OzArk report with landform mapping produced for Brigalow Belt South Bioregion (BBSB) (RACD: 2002). The map scale is 1:50k compared to 1:250k for Mitchell Landscape maps used in the OzArk report. The examination shows a strong correlation with OzArk project results overall. The correlation indicates a tight cluster pattern of small sites among the landform category Soil mantled slope where drainage lines originate on and traverse this landform. The drainage can be described as ephemeral and narrow. Sites are highly likely to be small in size and low in artefact frequency. Similar patterns are present for Rocky ground landforms and Colluvium. Soil mantled slopes dominates the project area.

However the dominate features of the Soil mantled slope negate it being considered an ACH sensitive landform. Virtually all of the sites located among this landform are associated with minor drainage. The potentially more significant landform category in the study area is Alluvium which forms the western boundary of the development proposal. The dominant feature of this landform in the project area is Wambangalang Creek. The Mitchell Landscape mapping presented in the OzArk report was viewed as too coarse to compare effectively with the BBSB landform mapping and evaluate site distribution patterns.

Toongi-Dubbo Rail Line and Gas Corridor

No Aboriginal sites have been recorded around the creek intersections within the rail easement. In lieu of the limited details of the creek inspections undertaken within the corridor OEH advises caution when excavating trenches for the pipeline and expect that the Aboriginal Heritage Management Plan address this with appropriate strategies.

Macquarie River Pipeline Route

The Macquarie River Pipeline route follows, in part, parallel to Wambangalang Creek. It is difficult to ascertain in the report the extent of harm from the proposed pipeline that may affect ACH in this area, particularly survey units MM-8 and MM-7. The report tables only two isolated finds in this area. OEH

expects the ACHMP will action particular attention in areas where the development proposal intersects Wambangalang Creek and its confluences with minor creeks.

Aboriginal consultation and cultural significance evaluations.

The report indicates that Aboriginal people have been involved in the project and have been provided an opportunity to participate and form opinion of the project results. OEH accepts and supports the community summaries (Appendix 1) regarding the significance of ACH discovered in the project area. OEH wishes to highlight that a large number of the sites that occur within the project boundary were recorded by Aboriginal people from 1997 through to 2002. OEH records show that the AHIMS site cards report that each site is significant to Aboriginal people.

Recommendations and management plan proposal

- 6.1** Overall, OEH accepts the broader elements of the report's recommendations that site contents will be either salvaged or surface artefacts collected. The framework of the ACHMP is sound but requires further clarity. OEH wishes to defer further comments until the development of the ACHMP commences post project approval. In the meantime, OEH supports further test excavation of areas selected by OzArk for the purpose of better informing the project proposal of sensitive areas.

References

RACD 2002: Aboriginal cultural heritage assessment for the Brigalow Belt South Bioregion. Western Regional Assessment. National Parks and Wildlife Service.