



**Office of
Environment
& Heritage**

Your reference: SSD 5465 Mod 2
Our reference: DOC15/265755-1
Contact: Steve Lewer, 4927 3158

Mr Hamish Aiken
Team Leader
Resource Assessments – Planning Services
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Dear Mr Aiken

RE: REVIEW OF CHAIN VALLEY COLLIERY MODIFICATION 2 STATEMENT OF ENVIRONMENTAL EFFECTS – SECTION 96 MODIFICATION TO SSD 5465 (MOD 2)

I refer to your letter dated 14 July 2015 requesting comment on the Chain Valley Colliery Modification No. 2 Statement of Environmental Effects (SEE) report for a modification under Section 96 of the *Environmental Assessment and Planning Act 1979* to the approved State Significant Development 5465. The Office of Environment and Heritage (OEH) understands that the modification proposal involves:

- an increase in the maximum rate of ROM coal extraction at the mine from 1.5 Mtpa to 2.1 Mtpa
- mine design changes in the mine's northern mining area
- an increase in full time personnel from approximately 160 to approximately 220
- minor vegetation clearing adjacent to infrastructure for the purpose of asset protection from bushfires.

OEH has undertaken a review of the SEE titled 'Chain Valley Colliery – Modification 2, Statement of Environmental Effects, Section 96 Modification to SSD-5465', prepared for LakeCoal Pty Ltd by EMGA Mitchell McLennan Pty Limited (EMM) and dated June 2015. OEH's detailed comments are provided in **Attachment A**.

In summary, OEH has concerns with some sections of the SEE with respect to threatened species, namely survey effort and lack of a compensatory habitat package and/or biodiversity offsets. OEH requests that these concerns be appropriately addressed prior to recommended conditions of approval being provided.

If you require any further information regarding this matter please contact Steve Lewer, Regional Biodiversity Conservation Officer, on 4927 3158.

Yours sincerely

6 AUG 2015

RICHARD BATH
Senior Team Leader Planning, Hunter Central Coast Region
Regional Operations

Enclosure: Attachment A

ATTACHMENT A: OEH REVIEW OF CHAIN VALLEY COLLIERY MODIFICATION 2 STATEMENT OF ENVIRONMENTAL EFFECTS – SECTION 96 MODIFICATION TO SSD 5465 (MOD 2)

SUBSIDENCE IMPACTS

OEH has not reviewed the subsidence and the marine ecology sections of the SEE with respect to potential adverse impacts on the benthic ecology of the bed of Lake Macquarie as OEH does not have expertise in these areas. Although the SEE implies that such impacts are negligible, OEH recommends that if the Department of Planning and Environment (DPE) approves the modification that it include a condition that requires the proponent to provide appropriate biodiversity offsets / mitigation measures if subsidence adversely impacts the benthic ecology of the lake and/or impacts on threatened species that utilise this environment as habitat, such as those species that forage on nearby seagrass beds.

OEH acknowledges that within the Marine Ecology assessment (Appendix F), LakeCoal has given a commitment to undertake remedial strategies to replace any loss of seagrass beds if it is shown that its loss is a direct result of subsidence. Although the assessment provides an indication of how this remediation would be undertaken greater detail should have been provided given the importance of this habitat. The seagrass beds provide important habitat and foraging resources to known threatened sea turtles and as such OEH would expect that the Seagrass Management Plan developed as part of the original consent (in 2014) would provide greater details on the any remedial process, including consideration of potential impacts on threatened species. If not, DPE should insure its inclusion.

THREATENED SPECIES

OEH has undertaken a review of Section 5.7 – ‘Terrestrial Ecology’ and Appendix E – ‘Assessment of significance’ of SEE. The SEE states that approximately 0.03 hectares (ha) of native vegetation (all representing an endangered ecological community) will be cleared for the modification with a further area of 1.01 ha being disturbed as a result of the proposed ‘asset protection zone’ (APZ). The vegetation to be impacted upon has been described as (i) Swamp Mahogany Swamp forest (0.03 ha to be cleared), (i) Scribbly Gum – Red Bloodwood woodland, (iii) Smooth-barked Apple – Red Bloodwood open forest, and (iv) planted exotic vegetation. No threatened species were recorded during the site visit / survey (dated 8 April 2015).

Surveying

OEH notes that no specific fauna surveying was undertaken on the proposed impact footprint. OEH is therefore unable to assess the impacts on threatened species given the lack of specific supporting data and questions how certain assumptions within the ‘Assessment of Significance’ (Appendix E) can be justified. Without appropriate field surveys being undertaken, comments such as “*the survey area does not contain a species, population or important habitat*” or “*the proposal will not remove certain threatened individuals*” cannot be supported without physical site data to support them.

OEH acknowledges that the impact area is small (approx. 1.3 ha), however, OEH survey guidelines are not scale dependant and do not extinguish the use of certain methodologies on the basis of size. As such OEH would have expected the relevant fauna surveys for all potential species and/or guilds to have been undertaken and in accordance with methodologies and sampling effort specified in the recommended guidelines (DEC 2004, DECC 2009). OEH acknowledges in some instances surveys or components of them may not be undertaken, however, adequate justification is required as to why such techniques or surveys were not carried out. A single site visit to conduct habitat assessments and opportunistic sightings is insufficient to determine the likelihood absence / presence of potential threatened fauna.

Similarly, limited flora survey work has been undertaken for the proposal, particularly targeted searches for potential cryptic species, such as the orchids: *Cryptostylis hunteriana*, *Diuris praecox* and *Genoplesium insignis*. The SEE acknowledges that targeted searches for orchids, and to a lesser extent other taxa (e.g. *Tetratheca juncea*) were not undertaken at optimal times (i.e. when a species is likely flowering). OEH again questions how the ‘Assessment of Significance’ can make claims that the impact area does not contain important populations of threatened flora, given small orchid species, such as those listed as having the

potential to occur on site, could easily occur in large numbers on a very small area. For example, the largest population of *Diuris praecox*, which is in excess of 200 plants and located in the Newcastle local government area, occurs over an area of less than 0.1 ha. Although OEH acknowledges that the SEE states that pre-disturbance surveys will be undertaken prior to works being undertaken, OEH remain of the opinion these should have been completed prior to the submission of the SEE and certainly prior to any assessment of significance that was undertaken. The lack of surveys brings into question the validity and assumption made about the impacts on threatened flora within the SEE.

With respect to threatened flora, OEH does concur that the site would unlikely support *Diuris praecox* given its preference for near-coastal habitats, however, both vegetation types do support suitable habitat for *Tetratheca juncea* and would require appropriate surveys, along with the other orchid species.

If DPE requires OEH to make an assessment of the impact on threatened species, both flora and fauna (including their habitat) then appropriate surveying in accordance with accepted guidelines must be undertaken or conversely you assume presence of all likely occurring species. This will allow for an informed assessment of the proposal. To ensure that the flora and fauna surveys are compliant with OEH guideline, OEH must be satisfied that the following issues have been adequately addressed with respect to survey effort:

- a suitable survey design was adopted
- appropriate survey methodologies were utilised (as specified in the guidelines) and applied at a scale commensurate to detect the target species or guild
- targeted surveys were adequate and the subject species chosen were appropriate
- all surveys were conducted at the appropriate time with respect to seasonality and weather conditions (e.g. flower phenology)
- all surveys / methodologies adequately cover the study area, including all vegetation / habitat types and indirect impact areas.

Threatened species assessment

OEH has not completed a detailed review of the threatened species assessment section of the SEE for reasons outlined above, though does concur that for threatened fauna the site is unlikely to impact on significant habitat.

Biodiversity offsets

Although OEH acknowledges that the proposed development area and impacts to biodiversity are likely to be small, there is no lower limit with respect to scale of the development for the provision of offsets / compensatory habitat. As such OEH would have expected the SEE to address the provision of biodiversity offsets and/or compensatory measures under Section 5.7.4 'Mitigation and Management'. However, no details on offsets or compensatory measures have yet been provided.

OEH notes that the proposed impact area (both clearing and disturbance for APZ) is approximately one hectare of native vegetation (including a very small area of 'Swamp Sclerophyll forest on coastal floodplains' endangered ecological community), which when assessed under the BioBanking Assessment Methodology (OEH 2014) to determine the biodiversity cost would likely generate in the order of 5-10 'ecosystem credits'. The current market value of ecosystem credits in the Hunter is around \$2000 per credit and as such the biodiversity value of the one hectare of native vegetation to be removed is in the order of \$10-\$20,000. OEH recommends that the proponent should either retire the appropriate biodiversity credits or provide funding, equivalent to the biodiversity value that is being lost, to either a site specific environmental project that benefits threatened species or towards an action(s) that benefits a likely potential threatened species (as listed under OEH's 'Saving Our Species' program). To determine the exact number of biodiversity credits the proposed impact area would generate, OEH recommends that the proposal be assessed under the BBAM (OEH 2014). If the proponent does not wish to undertake such an initiative then OEH would expect a suitable biodiversity offset (commensurate to the impact site) be set aside and managed in perpetuity under one of the following conservation mechanisms:

- the establishment of BioBanking sites with BioBanking agreements under the *Threatened Species Conservation Act 1995*
- the dedication of land under the *National Parks and Wildlife Act 1974*
- a Trust Agreement under the *Nature Conservation Trust Act 2001*
- a Planning Agreement under s93F of the *Environmental Assessment and Planning Act 1979*.

Note: OEH no longer supports public positive covenant under s88E of the *Conveyancing Act 1919* or Conservation Agreements under the *National Parks and Wildlife Act 1974* as appropriate conservation mechanisms to secure and/or manage biodiversity offsets.

References:

DEC (2004) *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities*. Draft, Department of Environment and Conservation, Hurstville; available at: www.environment.nsw.gov.au/resources/nature/TBSAGuidelinesDraft.pdf.

DECC (2009) *Threatened Species Survey and Assessment Guidelines: Field Survey Methods for Fauna – Amphibians*. April 2009. Department of Environment and Climate Change (NSW), Goulburn Street, Sydney.

OEH (2014) *BioBanking Assessment Methodology*. Office of Environment and Heritage, detailed at: www.environment.nsw.gov.au/biobanking/bbreview.htm.

ABORIGINAL CULTURAL HERITAGE ASSESSMENT

OEH has reviewed 'Appendix I, Aboriginal cultural heritage assessment, Volume 3, Chain Valley Colliery – Modification 2 – Statement of Environmental Effects – Section 96 Modification to SSD – 5465', Prepared by EMM, May 2015. There are two registered Aboriginal sites on the Aboriginal Heritage Information Management System (AHIMS) located within the original mine footprint. OEH concurs with the updated assessment provided that the proposed mine design changes will now remove *AHIMS Site # 45-7-0154* from the development footprint, consequently the proposed modification will have a positive impact with respect to this site. With respect to the second site, *AHIMS Site # 45-7-0157* will be subject to a small additional encroachment which may result in negligible subsistence impacts. OEH agrees with this assessment and notes that ongoing monitoring activities will be maintained, which will identify and manage any potential additional impacts. OEH has no additional concerns with respect to Aboriginal cultural heritage and the proposed Section 96 Modification to SSD-5465.

FLOODING AND FLOODPLAIN MANAGEMENT

OEH offers the following comments on the floodplain management components of the Planning Proposal to modify the Chain Valley Colliery development consent (SSD-5465).

Section 5.2.4 of the SEE states that no seagrass was recorded in the area of the SPB during a survey that was undertaken in that area prior to undermining. Section 5.3.3 of the SEE also states that no groundwater dependent ecosystems were noted to occur, with negligible impact on terrestrial ecosystems anticipated due to the limited draw down impacts predicted. These assessments were based on the immediate 'development zone' of the proposed works, and do not take into account the migratory nature of both aquatic and terrestrial ecosystems. In addition to this, there have been some significant subsidence incidents in the Mannering Park / Chain Valley Bay area in the past, which far exceeded the levels of subsidence predicted in the SEE. Thus, there is potential for a greater adverse impact on terrestrial and aquatic ecosystems than what is stated in the SEE.

Table 5.2 of the SEE notes that surface water runoff is currently managed through a series of 13 interconnected sediment ponds and no impact is anticipated as a result of these proposed works on the surface water infrastructure. Schedule 3 of the existing Development Consent SSD-5465 details the requirement for the Water Management Plan. This Water Management Plan should be reviewed and updated, where required, following subsidence episodes, to ensure that this infrastructure continues to function as designed.

There are no adverse impacts on surface flooding of private properties as a result of the proposed development, based on the information provided in the SEE.

If subsidence is greater than that predicted in the SEE, then it is anticipated that appropriate rectification works will be undertaken, and this is considered by others as part of this approval process. OEH also requests that the subsidence monitoring reports and raw survey data (including bathymetric) be supplied to OEH within three months of their completion.

In its current form, the floodplain management components of the Planning Proposal are generally supported by OEH to modify the Chain Valley Colliery development consent (SSD-5465).

OEH – AUGUST 2015

It is important to note that the data presented in this report is based on a limited number of samples and should not be used to make generalizations about the entire population. The data is intended to provide a general overview of the trends and patterns observed in the study.

The data was collected from a series of experiments conducted over a period of six months. The results of these experiments are presented in the following sections.

2.1. Introduction