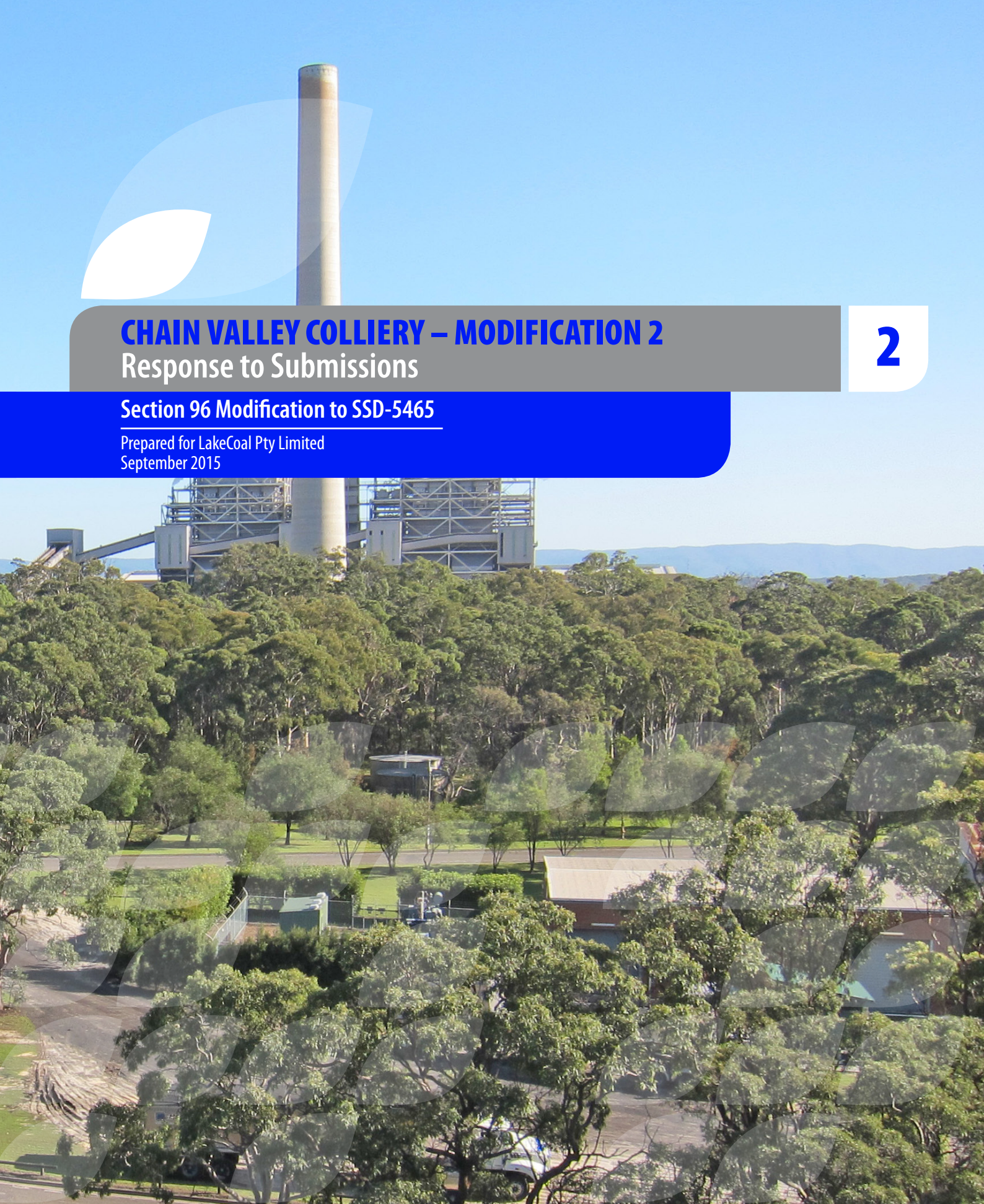




# **CHAIN VALLEY COLLIERY – MODIFICATION 2**

## **Response to Submissions**

**2**

### **Section 96 Modification to SSD-5465**

Prepared for LakeCoal Pty Limited  
September 2015



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## Chain Valley Colliery Modification 2 to SSD-5465

Response to Submissions

Prepared for LakeCoal Pty Limited | 16 September 2015

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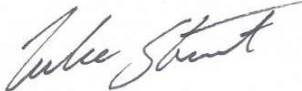
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## Chain Valley Colliery Modification 2 to SSD-5465

Final

Report J13117RP1 | Prepared for LakeCoal Pty Limited | 16 September 2015

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|-------------|-----------------------------------------------------------------------------------|-------------|------------------------------------------------------------------------------------|
| Approved by | <b>Luke Stewart</b>                                                               | Prepared by | <b>Rachael Thelwell</b>                                                            |
| Position    | Managing Director                                                                 | Position    | Senior Environmental Planner                                                       |
| Signature   |  | Signature   |  |
| Date        | 16 September 2015                                                                 | Date        | 16 September 2015                                                                  |

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This report has been prepared in accordance with the brief provided by the client and has relied upon the information collected at the time and under the conditions specified in the report. All findings, conclusions or recommendations contained in the report are based on the aforementioned circumstances. The report is for the use of the client and no responsibility will be taken for its use by other parties. The client may, at its discretion, use the report to inform regulators and the public.

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### Document Control

| Version | Date           | Prepared by      | Review by    |
|---------|----------------|------------------|--------------|
| 1       | 28 August 2015 | Rachael Thelwell | Luke Stewart |
| 2       | 16 September   | Rachael Thelwell | Luke Stewart |



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# Table of Contents

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|           |                                                   |   |
|-----------|---------------------------------------------------|---|
| Chapter 1 | Background                                        | 1 |
| Chapter 2 | Community submissions                             | 3 |
| Chapter 3 | Government agencies and organisations submissions | 5 |

## Appendices

|   |                                     |
|---|-------------------------------------|
| A | Assessments of significance – Koala |
| B | Revised statement of commitments    |

## Tables

|     |                                      |     |
|-----|--------------------------------------|-----|
| 3.1 | Summary of submissions and responses | 6   |
| B.1 | Commitments                          | B.1 |



## 1 Background

We refer to a proposal by the applicant, LakeCoal Pty Limited (LakeCoal), dated July 2015, for the modification to Development Consent SSD-5465 under Section 96(2) of the NSW *Environment Planning and Assessment Act 1979* (EP&A Act).

The proposed modification is to, amongst other things, permit an increase in extraction from 1.5 Mtpa to 2.1 Mtpa and mine design changes, primarily the re-orientation of miniwall panels in Chain Valley Colliery's (CVC) northern mining area. Minor vegetation clearing/disturbance adjacent to some infrastructure at CVC's pit top and the ventilation fan site at Summerland Point is also proposed to enable the extension/establishment of asset protection zones (APZs) for bushfire protection purposes.

It is noted that an underground linkage within the Fassifern Seam is approved between CVC and the adjacent Mannering Colliery (MC). MC operates under major project approval (MP06\_0311) and is also operated by LakeCoal. A modification of MP06\_0311 is also being sought to, amongst other things, permit an increase in the ROM coal handling and transport at MC from 1.1 Mtpa to a maximum of 1.3 Mtpa and operation until 30 June 2022. The modification to MP06\_0311 does not seek to increase coal production from MC beyond the limits identified in that approval, nor propose any modification to the underground mining areas or activities as previously assessed in the approval process for MP06\_0311. All production at CVC beyond the existing limit of 1.5 Mtpa will be sent via MC to Delta Electricity's Vales Point Power Station (VPPS).

All other components of CVC, as approved under Development Consent SSD-5465, will remain unchanged.

The *Chain Valley Colliery Modification 2 Statement of Environmental Effects* (SEE) (EMM 2015) accompanying the modification application was publically exhibited from 15 July to 6 August 2015.

Following public exhibition of the SEE, a total of 11 submissions were received: eight from government and special interest groups and three from community members. Of significance, all submissions received from the community were in support of the proposal. There were no community objectors.

As concluded in the SEE, the proposed modification is a minor alteration to the approved development and should be approved as:

- it improves the overall financial viability of CVC, promoting the continuation of the CVC's social and economic benefits;
- it provides for approximately 60 additional full time employees, including employment opportunities for people residing in the local area, further enhancing CVC's social and economic benefits;
- it supports LakeCoal's obligations to supply increased coal to VPPS for local power generation;
- it enables an increased level of bushfire protection for both the employees and assets essential for the continued operation of CVC;
- benefits can be achieved with little to no risk of adverse environmental impact;
- it is aligned with the principles of ecologically sustainable development; and
- it meets all relevant government policies.



## 2 Community submissions

Three submissions were received from community members. All submissions were in support of the proposed modification.

Reasons for support of the proposed modification are summarised below.

- *Increased employment.* The proposed modification would provide additional employment opportunities.
- *Ongoing viability of operations.* Benefits of the proposed modification for employees and local communities, including ongoing viability of operations at CVC which have been a key feature of the area for over 50 years.
- *Greater protection of workforce.* The proposed modification would enable greater protection of the workforce through improved productivity and hence, job security, as well as additional bushfire protection measures.
- *Increased local supply.* The proposed modification provides for an increased supply of coal to a local power station rather than supplying to the export market.



### 3 Government agencies and organisations submissions

Eight submissions were prepared by government agencies and organisations. These comprised submissions from:

- NSW Department of Industry, Skills and Regional Development – Division of Resources & Energy (DRE);
- NSW Office of Environment and Heritage (OEH);
- NSW Environment Protection Authority (EPA);
- NSW Department of Primary Industries (DPI);
- NSW Mine Subsidence Board;
- Wyong Shire Council (WSC);
- Lake Macquarie City Council (LMCC); and
- Darkinjung Local Aboriginal Land Council (LALC).

A summary of the submissions and responses to comments made in relation to the proposed modification are provided in Table 3.1. Further information relating to terrestrial ecology, specifically Koalas, is provided in Appendix A.

A revised statement of commitments is provided in Appendix B. Note that these commitments are in response to the proposed modification and are additional to the commitments made for the approved operations.

**Table 3.1**      **Summary of submissions and responses**

| Submission by | Comment summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| DRE           | <p>DRE noted:</p> <ul style="list-style-type: none"> <li>The proposed modification has a minor change to the spatial extent of the operation resulting in a minor additional rehabilitation obligation.</li> <li>The SEE has not identified general rehabilitation strategies and objectives, and does not adequately describe the functional domains of this project.</li> <li>Specific performance objectives and standards of each domain have not been satisfactorily described, but these can be addressed through amendment to the Mining Operations Plan (MOP).</li> </ul>                                                                                                                                                                                                                                                                                         | <p>The proposed modification does not entail changes to the surface infrastructure and only minor surface disturbance (approximately 1.42 ha associated with the extension/establishment of APZs). General rehabilitation strategies and objectives for the additional surface disturbance will be consistent with existing mine closure and rehabilitation measures for CVC as described in the Mining Extension 1 Project EIS (EMM 2013) and CVC's MOP and rehabilitation management plan. Mine closure and rehabilitation will be undertaken in accordance with Condition 25 of Schedule 3 of SSD-5465 with the surface facilities to be rehabilitated to the satisfaction of the Executive Director Mineral Resources.</p> <p>LakeCoal understands that the MOP will need to be updated to incorporate the minor change to the spatial extent of the operation. As the MOP is required to be accepted by DRE, any changes will need to be consistent with MOP Guidelines, September 2013 (ESG3) and to the satisfaction of DRE.</p> |
|               | <p>DRE recommends that conditions related to the following be incorporated into the CVC development consent.</p> <ul style="list-style-type: none"> <li>Rehabilitation objectives and commitments</li> <li>Progressive rehabilitation</li> <li>Rehabilitation plan.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>LakeCoal has no objection to the inclusion of conditions relating to rehabilitation objectives. However, it is noted that the requirement for progressive rehabilitation is generally associated with open cut mining and the imposition of any conditions should relate to and be commensurate with the areas being cleared/disturbed for the extension/establishment of the proposed APZs.</p> <p>CVC's MOP satisfies the requirements for the condition for a Rehabilitation Plan. The MOP will be reviewed and revised as required should approval for the proposed modification be granted.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| OEH           | <p><i>Subsidence impacts</i></p> <p>OEH states that it has not reviewed the subsidence and 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 this area. However:</p> <ul style="list-style-type: none"> <li>OEH recommends the DP&amp;E include a condition, subject to approval, that requires the proponent to provide appropriate 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.</li> <li>OEH expects that the Seagrass Management Plan developed as part of the original consent would provide greater details on any remedial process, including consideration of potential impacts on threatened species.</li> </ul> | <p>Surveys and annual monitoring of benthic communities have established that water depth, which would potentially be affected by subsidence, is not the primary determining factor for benthos abundance and diversity. As specified in CVC's benthic communities management plan (BCMP) (which was prepared in consultation with OEH, LMCC and DPI Fisheries and approved by the Secretary as part of the extraction plan), ongoing sampling, analysis and modelling of the communities will be undertaken to ensure any changes in community diversity and abundance do not result in greater than minor environmental consequences. The BCMP already identifies responses to be undertaken such as reorientation of panels should changes in community diversity or abundance be identified. Therefore, the recommended condition is not warranted.</p> <p>The SEE provides an overview of CVC's seagrass management processes with greater detail provided in the Seagrass Management Plan. The mine plan has been</p>             |

**Table 3.1**      **Summary of submissions and responses**

| Submission by | Comment summary                                                                                                                                                                                                                                                                                                                                          | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|               | <p><i>Threatened species</i></p> <p>OEH notes the clearing of approximately 0.03 ha of Swamp Mahogany Swamp Forest endangered ecological community (EEC) and the 1.01 ha of native vegetation being disturbed as a result of the proposed APZs. It also notes that no threatened species were recorded during the site visit/survey on 8 April 2015.</p> | <p>designed to ensure that there is less than 20 mm subsidence within the seagrass protection barrier (SPB). Notwithstanding, operations at CVC will be undertaken in accordance with the Seagrass Management Plan (also prepared in consultation with OEH, LMCC and DPI Fisheries and approved by the Secretary as part of the extraction plan) which provides for annual surveys of seagrass occurrence to monitor the community assemblage and extent, and potential remediation measures if required.</p> <p>As specified in Section 5.4.2 of the SEE, annual surveys of seagrass communities in Summerland Point, Chain Valley and Crangan Bay have been undertaken on behalf of LakeCoal since 2008. Reporting has identified that all seagrass beds have expanded since 2011.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|               | <p><i>Surveying</i></p> <p>OEH states that no specific fauna surveying was completed on the proposed impact footprint and, therefore, questions the results of the</p>                                                                                                                                                                                   | <p>A total of approximately 1.01 ha of native vegetation will be disturbed to extend/establish APZs, comprising approximately 0.22 ha of the Swamp Mahogany Swamp Forest (Swamp Sclerophyll Forest EEC), approximately 0.48 ha of the Scribbly Gum Red Bloodwood Heathy Woodland and approximately 0.31 ha of the Smooth-barked Apple Red Bloodwood Open Forest. As stated by OEH, a small area (approximately 0.03 ha) of the Swamp Mahogany Swamp Forest EEC will be cleared around the ventilation fan site to establish a fire trail.</p> <p>It is important to also note that development of the APZs will only require selective felling of trees to reduce canopy cover to 15% of the total surface area within the APZs inner protection area (IPA) and 30% within the outer protection area (OPA). To achieve this, trees will be selectively felled and important structural components of the communities prioritised for retention. Therefore, the areas of vegetation disturbance identified above are highly conservative.</p> <p>It should be noted that one purpose of the APZs is to protect surrounding native vegetation should a fire occur in the pit top area or at the ventilation shaft. Although the APZ will disturb native vegetation immediately adjacent to the pit top and ventilation shaft, it will create a buffer between these areas and surrounding native vegetation which also contains the Swamp Sclerophyll Forest EEC (vent shaft site only) as well as potential habitat for threatened flora and fauna, thereby reducing the ongoing bushfire risk to these areas of native vegetation.</p> <p>Extensive field surveys have been completed at CVC and the surrounding Delta Electricity lands (Ecotone Ecological Consultants 2010 and EMM 2014). As</p> |

**Table 3.1**      **Summary of submissions and responses**

| Submission by | Comment summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|               | <p>‘assessment of significance’, specifically comments such as ‘the survey area does not contain a species, population or important habitat’ or ‘the proposal will not remove certain threatened individuals’.</p> <p>OEH notes that the impact area is small, but states that OEH survey guidelines are not scale dependent. OEH does note that in some instances surveys or components of them may not be undertaken, however, that adequate justification is required as to why such techniques or surveys were not carried out.</p> <p>Similarly, OEH notes that no targeted searches for potential cryptic species, such as the orchids: <i>Cryptostylis hunteriana</i>; <i>Diuris praecox</i> and <i>Genoplesium insignis</i> occurred. OEH therefore questions the ‘assessment of significance’ for these species.</p> <p>OEH acknowledges that the SEE states that pre-disturbance surveys will be undertaken prior to works being undertaken. OEH, however, remain of the opinion that these should be completed as part of the approval process. OEH’s submission outlines its expectations for surveys.</p> | <p>described in Section 5.7 of the SEE, field investigations were also completed as part of the ecological assessment for proposed modification and included identification and mapping of vegetation communities, targeted threatened flora searches, fauna habitat assessment and opportunistic sightings. These field surveys have resulted in a wealth of existing ecological information for the local area.</p> <p><i>Targeted bird survey</i></p> <p>Notwithstanding the above, subsequent to receipt of OEH’s submission, a targeted survey was completed on 26 August 2015 for threatened birds with potential habitat in the areas to be disturbed. Species targeted comprised the Glossy Black-cockatoo (<i>Calyptorhynchus lathami</i>), Little Lorikeet (<i>Glossopsitta pusilla</i>), Scarlet Robin (<i>Petroica boodang</i>) and Varied Sittella (<i>Daphoenositta chrysoptera</i>). The survey did not record these or any other threatened bird species. As these species have not been recorded during the initial opportunistic surveys or targeted surveys, their likelihood of occurrence in the proposed modification area is low. Additionally, their habitat is widely available in the area surrounding the pit top and vent shaft. Therefore, impacts from the proposed modification are not predicted to be significant for threatened bird species.</p> <p><i>Potentially occurring threatened birds</i></p> <p>Targeted surveys were not completed during the current round of surveys for the Barking Owl (<i>Ninox connivens</i>), Masked Owl (<i>Tyto novaehollandiae</i>), Powerful Owl (<i>Ninox strenua</i>), Regent Honeyeater (<i>Xanthomyza phrygia</i>) and Swift Parrot (<i>Lathamus discolor</i>) as they have been recorded during previous surveys (Ecotone Ecological Consultants 2010; EMM 2014; NGH Environmental 2011). Accordingly, these species were assumed to be present in the wider area, and occasionally use the modification area. The assessments of significance were based upon these assumptions.</p> <p>Assessments of significance were completed to assess potential impacts of the proposed modification on the above species. As the critical parts of these species’ potential habitats at the site such as large hollow-bearing and fruiting trees will be retained within the APZs, assessment of the proposed modification has shown that it will not result in significant impacts.</p> <p><i>Potentially occurring threatened microbats</i></p> <p>Targeted microbat surveys were not completed during the current round of surveys as species including the Eastern Freetail Bat (<i>Mormopterus norfolkensis</i>), Little Bentwing Bat (<i>Miniopterus australis</i>) and Eastern Bentwing Bat (<i>Miniopterus</i></p> |

**Table 3.1**      **Summary of submissions and responses**

| Submission by | Comment summary | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|               |                 | <p><i>schreibersii oceanensis</i>) have been identified during previous targeted surveys in the adjacent Delta Electricity Lands (EMM unpublished data 2014). As they are highly mobile species and similar habitat features were present in the modification area as in the Delta Electricity Lands, it was assumed that they were present in the wider area. The assessment of significance was prepared based on this assumption.</p> <p>Roosting habitat for the tree-dwelling Eastern Freetail Bat will be retained within the APZs, and only a small area of foraging habitat will be selectively thinned on the margins of a substantially larger area of habitat for the species. Therefore, the proposed modification will not result in significant impacts for the species. The Eastern Bentwing Bat and Little Bentwing Bat are primarily cave dwelling and, as with the Eastern Freetail Bat, the habitat to be thinned would form a small part of a much wider foraging range in the locality. Therefore, the assessments concluded that the proposed modification will not result in significant impacts for the Eastern Bentwing Bat or Little Bentwing Bat. As important habitat features for these species will be retained, targeted surveys are not considered necessary to inform the assessment of significance.</p> <p><i>Potentially occurring threatened mammals</i></p> <p>Targeted surveys were not completed for the Spotted-tail Quoll as it was assumed that the APZs represent a small part of a very wide home range of any potential population in the area. The assessment of significance was completed based on this assumption. The assessment concluded that as habitat features important to the Spotted-tail Quoll would be prioritised for retention in the APZs, and the area likely represented a small part of a wider home range, the proposed modification would not result in significant impacts.</p> <p>Targeted mammal surveys were not completed during the current round of surveys as species including the Squirrel Glider (<i>Petaurus australis</i>) and Grey-headed Flying-fox (<i>Pteropus poliocephalus</i>) have been recorded during previous surveys (Ecotone Ecological Consultants 2010; EMM 2014; NGH Environmental 2011) and, accordingly, were assumed to be present in the wider area, and occasionally use the modification area. The assessments of significance were based upon these assumptions.</p> <p>Assessments of significance were completed to assess potential impacts of the proposed modification on the above species. As the critical parts of these species' potential habitats at the site will be retained, such as large hollow-bearing trees for the Squirrel Glider and fruiting/flowering trees for the Grey-headed Flying-fox, assessment of the proposed modification has shown that it will not result in</p> |

**Table 3.1**      **Summary of submissions and responses**

| Submission by | Comment summary | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |                 | <p>significant impacts. Additionally, the site does not contain a Grey-headed Flying-fox roosting camp.</p> <p><i>Targeted threatened flora survey</i></p> <p>Subsequent to receipt of OEH's comments, a targeted survey was completed on 26 August 2015 for Black Eyed Susan (<i>Tetralochea juncea</i>) and Rough Doubletail (<i>Diuris praecox</i>) (ie during the flowering period of these species). The survey did not record any Black-eyed Susan individuals; however, it identified potential habitat to be present in the Scribbly Gum – Red Bloodwood Heathy Woodland at the site. Habitat is considered to be absent for Black-eyed Susan within the Smooth-barked Apple Red Bloodwood Open Forest given that it is highly disturbed and the understorey is dominated by either exotic species or bare soil. It is noted that the <i>Environmental Impact Assessment Guidelines for Black-eyed Susan</i> (NPWS 2000) recommend two to three targeted surveys during the flowering season to detect the species. A second targeted survey will be completed for Black-eyed Susan in November 2015, prior to disturbance for the APZs. If individuals of the species are found, they will be marked in the field and protective fencing will be erected (which allows for future plant growth) to ensure that they are not damaged during the subsequent APZ development activities or future annual mowing of the understorey. Therefore, the project is not expected to result in significant impacts for Black-eyed Susan.</p> <p>During the targeted survey, it was determined that habitat was absent for the Rough Doubletail, as the areas to be disturbed were not located on slopes or hillsides, and are flat in topography. As the species is now deemed unlikely to occur, it is assessed that the project will not result in significant impacts for the Rough Doubletail.</p> <p>The targeted surveys were completed on 26 August 2015, immediately prior to the flowering season of the Variable Midge Orchid (<i>Genoplesium insignis</i>) (September to October). Given that the targeted survey was completed immediately prior to the flowering season, above ground components of the species should have been recorded, if present. No individuals were recorded during the targeted survey. Therefore, impacts are not predicted to be significant for the Variable Midge Orchid.</p> <p><i>Potentially occurring threatened flora species</i></p> <p>It was not possible to complete targeted surveys for the Leafless Tongue Orchid (<i>Cryptostylis hunteriana</i>), given its flowering period (November to February) which lay outside the approval timeframe of the proposed modification. Therefore, surveys have focused on identifying areas of potential habitat. The Scribbly Gum –</p> |

**Table 3.1**      **Summary of submissions and responses**

| Submission by | Comment summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>Red Bloodwood Heathy Woodland at the site contains potential habitat for the Leafless Tongue Orchid as it is commonly found in this vegetation type.</p> <p>During targeted surveys for the Black-eyed Susan and threatened birds, the leaves of several individuals of the Bonnet Orchid (<i>C. erecta</i>), a common tongue-orchid species sometimes recorded with the Leafless Tongue Orchid, were recorded. Targeted pre-clearance surveys will be completed in November for the Leafless Tongue Orchid, prior to disturbance for the APZs. If individuals of the species are found, they will be marked in the field and protective fencing (which allows for future plant growth) will be erected to ensure that they are not damaged during the annual mowing of the understorey. Therefore, the project is not expected to result in significant impacts on the Leafless Tongue Orchid.</p>                                                                                                                                                                                                                                                                                                        |
|               | <p><i>Threatened species assessment</i></p> <p>OEH states that it has not completed a detailed review in light of the above, though does concur that for threatened fauna the site is unlikely to impact on significant habitat.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>Noted. Assessment of the proposed modification has shown that there will not be significant impacts on threatened fauna species.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|               | <p><i>Biodiversity offsets</i></p> <p>OEH states that although it 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. It also notes that no offsets have been provided as yet.</p> <p>OEH provides estimates of the offset liability for the proposed modification under the OEH (2014) BioBanking Assessment Methodology is 5 to 10 'ecosystem credits'.</p> <p>OEH recommends that the applicant should either retire the appropriate 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. It notes that if this approach is not adopted, OEH expects a suitable offset (commensurate to the impact site) be set aside and managed in perpetuity under a conservation mechanism.</p> | <p>In its assessment of the credit liability, OEH assumes that 0.03 ha of Swamp Sclerophyll Forest EEC will be removed, and all vegetation within the APZ (1 ha) will be removed, which would generate between five and ten ecosystem credits. As stated in Section 5.7.3 of the SEE, trees will be selectively retained within the APZ, and will be managed according to the following:</p> <p>IPAs:</p> <ul style="list-style-type: none"> <li>• canopy cover kept at less than 15% of total surface area and at least 2 m from the roof line of a building;</li> <li>• garden beds and shrubs not to be located under trees and sited at least 10 m from any exposed windows or doors; and</li> <li>• lower limbs of trees up to 2 m above the ground are removed.</li> </ul> <p>OPAs:</p> <ul style="list-style-type: none"> <li>• canopy cover kept at less than 30% of total surface area; and</li> <li>• understorey mowed annually before the fire season (usually September) to remove shrubs and long grasses.</li> </ul> <p>As mentioned above, one purpose of the APZs is to reduce the bushfire risk to native vegetation adjacent to the pit top area and ventilation shaft. Given that the</p> |

**Table 3.1**      **Summary of submissions and responses**

| Submission by | Comment summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>vegetation will be thinned only and not completely removed within the APZs, the lower end of the credit range provided (five ecosystem credits) is likely to be generated.</p> <p>Biodiversity offset sites need to be large enough to enable biodiversity benefits. The small number of credits generated by the proposed modification's impacts would require a biodiversity offset site to be established that would be well beneath this threshold. In consideration of the above, a greater biodiversity benefit would be achieved through the provision of funding to a conservation project or the purchase of credits that benefit the community and species impacted as suggested by OEH. Accordingly, the applicant will investigate one of the following options for biodiversity offsets:</p> <ul style="list-style-type: none"> <li>• provide \$10,000 of funding, which is equivalent to the biodiversity being lost (ie 5 credits x \$2,000 per credit) to existing environmental programs at the site which benefits the Swamp Sclerophyll Forest EEC; or</li> <li>• consult with OEH to identify a suitable conservation program and provide \$10,000 of funding; or</li> <li>• purchase and retire 5 credits on the Biobanking register.</li> </ul> <p>These options will be considered by the applicant in consultation with OEH and the option that achieves the greatest benefit to the biodiversity impacted by the proposed modification will be selected.</p> |
|               | <p><i>Aboriginal cultural heritage assessment</i></p> <p>OEH states that it concurs with the assessment and notes ongoing monitoring activities will be maintained, which will identify and manage any potential additional impacts. OEH states that it has no additional concerns with respect to Aboriginal cultural heritage and the proposed modification.</p>                                                                                                                                                                                                                                          | <p>OEH's concurrence is noted. Monitoring will continue in accordance with CVC's heritage management plan as required under Schedule 3 Condition 21 of Development Consent SSD-5465. Following approval, the heritage management plan will be reviewed and revised to remove site #45-7-0154 and incorporate any other changes required as a result of the proposed modification.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|               | <p><i>Seagrasses and GDEs</i></p> <p>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 drawdown impact 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</p> | <p>The SEE sections referenced do not contain the statements that OEH has detailed in its submission. Section 5.2.4 of the SEE describes the potential impacts on existing and proposed infrastructure from subsidence. Section 5.3.3 describes the previous groundwater modelling undertaken for the CVC Mining Extension 1 Project (approved under SSD-5465) and how this remains applicable to the proposed modification.</p> <p>Notwithstanding, it is important to note that the groundwater assessment was</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**Table 3.1**      **Summary of submissions and responses**

| Submission by | Comment summary                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|               | <p>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.</p>                                                                                                                            | <p>reviewed for the proposed modification in consideration of the monitoring data obtained since the completion of the original assessment. Monitoring demonstrates that the rate of groundwater inflow is well within maximum approved under SSD-5465.</p> <p>No increase in groundwater impacts were predicted above those previously assessed for the original SSD-5465 application.</p> <p>The SPB, a barrier adopted and implemented by LakeCoal since 2008, has again been adopted in the CVC mine plan design to protect seagrass communities by limiting subsidence to less than 20 mm. The SPB is determined through mapping of seagrass communities and surveyed annually to identify any changes to communities. Annual seagrass surveys since 2008 have shown continual improvement in cover and health of seagrass communities in Summerland Point, Chain Valley Bay and Crangan Bay. Since 2008 there have been no subsidence related impacts to the seagrass community, and with the continued implementation of the seagrass management plan, no subsidence impacts to seagrass communities are likely. However, seagrass occurrence will continue to be surveyed annually to monitor the community assemblage and extent in accordance with CVC's seagrass management plan.</p> <p>Impacts on benthic communities were also assessed as unlikely under the proposed modification. Monitoring of benthic communities will continue in accordance with the BCMP (refer to Section 5.4.3 of the SEE).</p> <p>There will be negligible change to groundwater flows and to the groundwater system under the proposed modification. Therefore, potential impacts on groundwater dependent ecosystems will be unchanged from the approved project. Any observable changes in the groundwater system will be reported, with any required ameliorative actions conducted, as prescribed in the CVC groundwater management plan (GWMP).</p> |
|               | <p><i>Flooding and Floodplain management</i></p> <p>OEH recommends that the CVC's Water Management Plan (WMP) be reviewed and updated, where required, following subsidence episodes, to ensure surface water management infrastructure continues to function as designed.</p> <p>OEH notes that 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.</p> | <p>The CVC's WMP was prepared in accordance with Condition 18, Schedule 3 of Development Consent SSD-5465. The WMP includes procedures for monthly inspections of water management structures to ensure they are functioning effectively. Notwithstanding, it should be highlighted that the proposed mining areas and associated subsidence modelling indicate that subsidence will be occurring beneath Lake Macquarie and would not impact water management infrastructure.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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|               | <p>OEH also note that if subsidence is greater than that predicted in the SEE, then it is anticipated that appropriate rectification works be undertaken, and this is considered by others as part of this approval process.</p> <p>OEH also requests that the subsidence monitoring reports and raw survey data (including bathymetric) be supplied to OEH within three months of their completion.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>LakeCoal will commit to providing subsidence monitoring reports and raw survey data to OEH within three months of their completion. It should also be noted that LakeCoal has made subsidence monitoring reports available publically via the website (<a href="http://www.chainvalleymine.com.au">www.chainvalleymine.com.au</a>) since 2011 and will continue to do so. Raw subsidence survey data is currently provided to DRE within seven days of completion and following provision of appropriate contact details, OEH can also be included within this data distribution.</p> <p>As described in Section 5.2.6 of the SEE, LakeCoal will implement an adaptive management approach to ensure performance measures related to subsidence are achieved. If subsidence is greater than predicted then appropriate rectification works such as the adjustment of the mining layout and/or methods be implemented through the extraction plan process to achieve or exceed the required measures of performance, where warranted.</p>                                                                                                                                                                                                                                                                                                                                    |
| EPA           | <p>The EPA notes that LakeCoal would need to apply for a variation to its Environment Protection Licence (EPL) 1770 for the scheduled activities in relation to limit conditions for extraction of ROM coal.</p> <p><i>Noise and Air</i></p> <p>The EPA notes that no air quality or noise impact assessments were undertaken as the modification is related to an increase in yield with no expected increase in above ground stockpile volumes or change in maximum handling rates. EPA also notes that these have been assessed previously.</p> <p><i>Water</i></p> <p>EPA notes that no increase to the volume of groundwater dewatering or groundwater and surface waters discharged from the premises is proposed.</p> <p>Pollution Reduction Programs have been included on EPL 1770 to upgrade sewage treatment systems and water management on the premises. With the additional workforce as a result of the project, the EPA recommends that the current approval be modified to include:</p> <ul style="list-style-type: none"> <li>• All sewage at the premises must be treated, managed and/or disposed of in accordance with the requirements of the EPA.</li> </ul> <p>The EPA notes that it has received an options report and is progressing through conditions on the licence for an upgrade of sewage treatment</p> | <p>As noted by the EPA, the requirement to vary EPL 1770 was identified in Section 2.3.2.ii of the SEE. An application to vary the EPL will be submitted should the proposed modification be approved.</p> <p>Noted. The proposed modification will not change operations at the pit top or transport of product coal from the pit top that would contribute to an increase in air quality or noise emissions. Therefore, no impact assessments were required.</p> <p>Noted. The groundwater modelling and assessment undertaken for the approved project remains applicable to the proposed modification.</p> <p>LakeCoal is committed to the process of continual improvement and more specifically, implementing the required Pollution Reduction Programs that the EPA sets under the EPL.</p> <p>LakeCoal is currently in the concept design stage for improved sewage management, which is considering at the potential for a private pump station and rising main to connect with Council's municipal system. It should, however, be noted that monitoring results for faecal matter over a number of years have shown that the water quality leaving site is generally compliant with the criteria for primary contact waters, and importantly the faecal matter indicators from water being discharged from site are significantly below background levels in the</p> |

**Table 3.1 Summary of submissions and responses**

| Submission by         | Comment summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                       | <p>and management at the premises.</p> <p>The EPA also notes that it is in the process of reviewing water quality and volume discharges from the premises and may require water treatment prior to discharge of waters from the premises if a strategic review identifies that metal concentrations in discharges are of concern. It notes that the SEE has identified that dissolved copper and zinc exceed ANZECC guidelines for fresh and marine waters, but offers no practical means of managing and mitigating metals and that the EPA will be addressing this issue through the strategic review of mine discharges into Lake Macquarie.</p>                                                                                                                                                                                                                                                                                                           | <p>surrounding environment.</p> <p>The EPA's strategic review of mine discharges into Lake Macquarie is noted. However, LakeCoal would anticipate that any further requirements in relation to water quality and treatment would be scientifically justified, impact related and would involve engagement with potentially impacted industries during the review process.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DPI                   | <p>DPI provided the following comments in relation to the CVC GWMP.</p> <ul style="list-style-type: none"> <li>• The proponent must submit the revised GWMP for review by DPI Water.</li> <li>• The GWMP should include discussion of all water related activities carried out and the level of compliance with the previous GWMP.</li> <li>• The GWMP should include an assessment of the groundwater take to demonstrate compliance with the Aquifer Interference Policy (AIP) with particular consideration of the minimal impact considerations set out in Table 1.</li> <li>• The GWMP should include a monitoring strategy to monitor and identify impacts on groundwater with respect to the minimal impact considerations. The monitoring strategy should identify triggers and response plans for each of the monitored parameters in the event of greater than minimal impacts being identified at any time during the life of the mine.</li> </ul> | <p>Should the proposed modification be approved, LakeCoal will review and, if necessary, revise the WMP which includes the GWMP. This would include DPI's groundwater assessment/monitoring requirements. If the WMP is revised it will be sent to the Secretary for approval as required under Condition 5, within Schedule 6 of SSD-5465. DPI Water will be consulted on changes to the WMP if required.</p> <p>Given that negligible changes to groundwater flows and to the groundwater system are predicted under the proposed modification, revision of the GWMP is unlikely to be required. Additionally, assessment against the minimal impact considerations set out in Table 1 of the AIP is also not considered warranted.</p> <p>The WMP was prepared in consultation with the NSW Office of Water, now DPI Water. The GWMP currently includes a groundwater monitoring program. Groundwater monitoring results and interpretation are reported in the CVC Annual Environmental Management Report which is provided to DPI Water.</p> |
| Mine Subsidence Board | The board has no objection to the proposed modification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | The Mine Subsidence Board's comment is noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Darkinjung LALC       | <p>Darkinjung LALC provides the following points for DP&amp;E to consider.</p> <ul style="list-style-type: none"> <li>• The area of Lake Macquarie is part of a significant Aboriginal Cultural Landscape.</li> <li>• Aboriginal sites are connected to each other within the landscape.</li> <li>• This connection forms part of a complex Aboriginal cultural landscape; they hold spiritual and cultural importance to the local Aboriginal community through their physical link to our creator Baiame, the ancestors and the past.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                            | <p>LakeCoal thanks Darkinjung LALC for its comments which are noted.</p> <p>In accordance with Schedule 3 Condition 21 of Development Consent SSD-5465, a heritage management plan (HMP) was prepared in consultation with relevant Aboriginal stakeholders. The approved HMP includes mechanisms for ongoing Aboriginal stakeholder consultation. A copy of the draft SEE, which included an assessment of the proposed vegetation clearing, was provided to the registered Aboriginal parties for comment. No comments were received from the Darkinjung LALC at that time.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

**Table 3.1**      **Summary of submissions and responses**

| Submission by | Comment summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| LMCC          | <ul style="list-style-type: none"> <li>• This enables us to continue to practice our land based faith and religion, to keep our culture strong which gives us a sense of place and identity.</li> <li>• This connection attaches the community to land and traditions and allows us to carry out our responsibility and obligation to it. This strengthens bonds within our Aboriginal community and the living spirits of our ancestors which are imbued within the land.</li> <li>• Darkinjung would like to be involved with any assessments of the vegetation clearing of the CVC's pit top and ventilation fan site and other areas proposed for clearing within the CVC area.</li> <li>• Continued protection of any Aboriginal sites within or within the vicinity of the project area.</li> </ul> <p>Darkinjung LALC requests that it is informed of any further information in relation to the consultation and assessment.</p> <p>Darkinjung LALC notes that, overall, it is satisfied with the recommendations within the SEE.</p> <p><i>Air Quality</i></p> <p>Due to increased coal production and previous studies identifying cumulative concentrations approaching impact assessment, LMCC recommends an Air Quality Impact Assessment is required.</p> | <p>No further assessments of the clearing associated with the proposed modification are required at this time. However, if further Aboriginal heritage assessment at CVC is required, consultation with the registered Aboriginal parties, including Darkinjung LALC, will be undertaken in accordance with the consultation requirements prescribed in the HMP.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|               | <p><i>Marine Ecology</i></p> <p>LMCC notes inconsistencies between the body of the report and the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p>The proposed modification is not projected to result in an increase in dust emissions as there is no proposed increase in coal handling at CVC or changes to surface infrastructure. Additionally, all air quality monitoring results (including daily real time PM<sub>10</sub> monitoring) have confirmed air quality around CVC is significantly below the required air quality criteria.</p> <p>Dust emissions from CVC's operations are managed in accordance with its approved air quality management plan which addresses the requirements of Condition 13, Schedule 3 of Development Consent SSD-5465.</p> <p>The air quality and greenhouse gas impact assessment for the Mining Extension 1 Project (Pacific Environment Limited 2013) found that emissions from CVC are below relevant impact assessment criteria at all sensitive receivers.</p> <p>Accordingly, preparation of an Air Quality Impact Assessment is not considered warranted. This view is supported by the EPA as indicated in its submission summarised above.</p> <p>Section 6 of the SEE identifies commitments made to negate or minimise potential</p> |

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| Submission by | Comment summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|               | <p>summary of mitigations.</p> <p>LMCC requests that Section 6 Mitigation Measures of the report should include the following:</p> <ul style="list-style-type: none"> <li>• Triggers for mitigation — 20% decline in condition from the base year survey or mining induced subsidence of 150mm or greater recorded at one of the monitoring sites.</li> <li>• If loss of seagrass habitat is found to occur as a result of subsidence, then LakeCoal commits to undertaking remediation strategies to replace an equal area of any loss of seagrass habitat.</li> <li>• On-site remediation measures will be undertaken in the first instance. Should remediation on-site not be viable, mitigation would be undertaken at other sites within Lake Macquarie in consultation with DPI Fisheries and LMCC.</li> </ul> <p>It is requested that the proponent identify the monitoring period for seagrass and benthic fauna, and that the monitoring period be based on the risk of subsidence on a temporal scale.</p> | <p>environmental impacts arising from the proposed modification. These commitments are specific to aspects of the proposed modification relevant to CVC and are additional to those identified in Development Consent SSD-5465.</p> <p>The measures that LMCC has specifically identified are already specified as triggers for further investigation within CVC's seagrass management plan (and not in the SEE as stated) which was prepared as part of the extraction plan in consultation with OEH, LMCC and DPI Fisheries and approved by the Secretary.</p> <p>The seagrass management plan has adopted an annual monitoring period. This is deemed the most appropriate monitoring period to determine potential changes in communities as a result of subsidence due to natural seasonal fluctuations. Further, potential impacts on seagrass communities as a result of subsidence are unlikely due to the implementation of the SPB.</p> <p>The BCMP specifies a six monthly seasonal (autumn and spring) monitoring of benthic communities. Impacts on benthic communities are also unlikely as a result of subsidence given that monitoring has shown that water depth is not a primary determining feature on abundance and diversity (refer to Section 5.4.3 of the SEE).</p> |
|               | <p><i>Bushfire Management</i></p> <p>LMCC notes that all clearing relating to bushfire protection should be conducted in a manner that prevents exposure of bare earth. A lack of groundcover will likely result in erosion and subsequent sediment in surface dams required for water quality purposes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>LMCC's comment is noted. The proposed APZs have been limited to that required for adequate bushfire protection. The areas of groundcover that are proposed to be removed are limited to trails. Cleared areas will be managed in accordance with CVC's erosion and sediment control procedures to minimise sediment laden runoff which are documented within the WMP.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|               | <p><i>Terrestrial Ecology</i></p> <p>LMCC states that SEPP 44 defines potential koala habitat as areas of native vegetation where the trees of the types listed in Schedule 2 constitute at least 15% of the total number of trees in the upper and lower strata of the tree component, not the canopy cover as reported in the SEE. An assessment under SEPP 44 to determine if the subject site constitutes core koala habitat is therefore required. The Scribbly Gum <i>Eucalyptus haemastoma</i> is listed as a feed species on Schedule 2 of SEPP 44 and, therefore, an assessment to determine if it constitutes potential and core koala habitat is required.</p> <p>Koala <i>Phascolarctos cinereus</i> is included in Table H.2 as 'moderate likelihood of occurrence' and 'further assessment required', however has</p>                                                                                                                                                                                  | <p>SEPP 44 defines potential Koala habitat as an area of native vegetation where the tree species listed in Schedule 2 constitute at least 15% of the total number of trees in the upper or lower strata of the tree component. SEPP 44 defines core Koala habitat as an area of land with a resident population of Koalas, evidenced by attributes such as breeding females, recent sightings and historical records of a Koala population.</p> <p>It is noted that Scribbly Gum (<i>Eucalyptus haemastoma</i>) is recognised as a feed species in Schedule 2 of SEPP 44. However, the <i>Recovery Plan for the Koala</i> (DECC 2008), published after SEPP 44, recognises that Koalas feed almost exclusively on a small number of preferred tree species which varies widely on a regional basis. It does not recognise Scribbly Gum as an important feed tree species for the Koala in</p>                                                                                                                                                                                                                                                                                                                                                                                             |

**Table 3.1**      **Summary of submissions and responses**

| Submission by | Comment summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|               | <p>not been included within the assessment of significance for TSC Act listed species (H.2) nor EPBC Act species (H.3). The assessment of impacts on this species, both under SEPP 44 and within the assessment of significance framework for TSC Act and EPBC Act listed species, is inadequate.</p> <p>No specific information regarding trees proposed for removal and retention. Trees should be marked on a tree retention or site analysis plan, flagged in the field, individually numbered, and accompanied by a correlating tree schedule. The retention of large, structurally sound eucalypts (in particular swamp mahogany), hollow-bearing trees and black sheoak at the subject site should be prioritised.</p> <p>The impact assessment (Section 5.7.3.i.b) states that five hollow-bearing trees could potentially be removed for the works, although these will be retained within the allowable canopy cover of the APZ where possible. A qualified ecologist or wildlife carer should supervise installation of nest boxes and removal of any hollow bearing trees to ensure mitigation against any native animal welfare issues. Nest boxes should be installed at a 1:1 basis for number of hollows lost and be of a design suitable for species that may be residing in trees marked for removal. Nest boxes should be of a design consistent with 'Nest Boxes for Wildlife - A Practical Guide (Franks, 2006)' and of durable material (ie; marine ply or equivalent). Nest boxes should be monitored to determine their usage and repairs or replacement (as required) carried out on an annual basis for a minimum period of five years following installation. Removal of trees with habitat hollows should be undertaken in either March, April, September or October, to minimise impact to threatened species that could breed and or hibernate within hollows on site. Any hollow-bearing trees should be felled in one to two metre sections, beginning at the top of the crown. Lengths cut from the tree(s) should be in a manner that will preserve the hollow(s) with each section inspected and appropriately treated to minimise impact to fauna.</p> <p>LMCC does not support the clearing or disturbance of EECs for the establishment of a bushfire APZ. The LMCC Flora and Fauna Survey Guidelines Appendix 8.5 require a 20 m vegetated buffer to significant vegetation (such as EECs) from development impacts including APZs. In this case, the asset needing protection is already built (as opposed to a</p> | <p>any region of NSW.</p> <p>The <i>Recovery Plan for the Koala</i> (DECC 2008) has identified six primary, 23 secondary and 16 supplementary feed tree species for the Central Coast Koala Management Area, in which the proposed modification occurs. The recovery plan does not include Scribbly Gum in this list of preferred feed tree species for the region.</p> <p>Potential Koala (<i>Phascolarctos cinereus</i>) habitat is present in the Swamp Mahogany Swamp Forest as Swamp Mahogany, a primary food tree species for the Central Coast region (DECC 2008), as it comprises at least 15% of the total number of trees in the upper and lower strata of the tree component.</p> <p>Dedicated searches for scats were undertaken during the surveys completed on 8 April 2015. Dedicated scat searches and nocturnal surveys were also completed for the Koala in the adjacent Delta Electricity Land (EMM unpublished data 2014). No Koalas or their scats were recorded during the targeted searches or surveys on adjacent land (EMM 2014; NGH Environmental 2011; Ecotone Ecological Consultants 2010). Therefore, the site is unlikely to represent core Koala habitat in accordance with SEPP 44.</p> <p>Assessments of significance for the Koala have been completed in accordance with Section 5A of the EP&amp;A Act and the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) (see Appendix A). The assessments determined that the proposed modification would not result in significant impacts on the Koala.</p> <p>As stated in the SEE, CVC's BMP will be updated to include measures to manage biodiversity during APZ maintenance. These are similar to LMCC's suggestions, and comprise:</p> <ul style="list-style-type: none"> <li>• pre-disturbance surveys by an ecologist to determine the important components of vegetation communities and fauna habitats that should be preferentially retained in the APZs;</li> <li>• pre-clearance surveys for threatened flora species, and installation of delineation fencing around threatened flora populations (if found) to ensure their protection during development and maintenance of the APZs;</li> <li>• condition monitoring for threatened flora populations (if found);</li> <li>• retention of hollow-bearing trees in the APZs, where possible;</li> </ul> |

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|               | <p>new asset proposed for development) and relocating the asset is not possible. Provision of compensatory replanting and weeding within other areas of swamp sclerophyll forest on coastal floodplains EEC at the subject site should be implemented within a Vegetation Management Plan. The Statement of Commitments (Table 6.1) should be updated to reflect this.</p> <p>The Statement of Commitments (Table 6.1) should be updated to reflect the peak flowering time for the required pre-disturbance surveys of <i>Tetratheca juncea</i> (mid September to mid October), not July to December as reported.</p>                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>• installation of nest boxes to replace hollows where hollow-bearing trees cannot be retained in the APZs;</li> <li>• measures for APZ maintenance that include weed control; and</li> <li>• relocation of suitable felled trees adjacent to the APZs to create additional fauna habitat.</li> </ul> <p>Additional detail will be included in the BMP to ensure that LMCC's suggestions are met.</p> <p>As stated above in the response to OEH, the APZs will reduce the bushfire risk to native vegetation surrounding the pit top area and ventilation shaft. As this vegetation disturbance is unavoidable, the applicant will provide funding equivalent to the biodiversity being lost by the proposed modification, which will be provided to a project that benefits Swamp Sclerophyll Forest EEC.</p> <p>It is acknowledged that the peak flowering season of Black-eyed Susan is between mid September to mid October. However, the survey guidelines provided in the <i>Environmental Impact Assessment Guidelines for Black-eyed Susan</i> (NPWS 2000) state that the species flowering period is sporadic, and survey should be completed between late August and late November (in dry years) and between August and January (in wet years). In view of the above, the statement of commitments will remain unchanged with respect to the species' flowering times.</p> |
| WSC           | <p><i>Ecology</i></p> <p>WSC states that a hollow bearing tree register detailing tree species, hollow size, orientation, type (eg branch, spout, base), retain or remove, would be useful in assessing impact.</p> <p>It also states that surveys are required for several of the cryptic threatened species and should also target <i>Diuris praecox</i>. Reference populations should be confirmed to be in flower prior to the surveys. Where threatened species occur in the APZ, consider providing a buffer around plants and maintaining corridors for pollinators rather than just protection from impact.</p> <p>The report did not include additional offset to compensate for the additional direct and indirect impacts on Swamp Sclerophyll Forest EEC or threatened species habitat, as per the <i>NSW Biodiversity Offsets Policy for Major Projects</i> (OEH 2014).</p> <p>The BMP should include a protocol to protect animal welfare, eg an</p> | <p>The BMP will be updated to include details of the hollow trees to be retained, which will be determined by a suitably qualified ecologist prior to vegetation thinning for the APZs.</p> <p>Details on surveys for cryptic species have been provided in the above response to OEH.</p> <p>If threatened flora species are recorded during the pre-clearing survey, they will be marked in the field and protective fencing will be erected around them, allowing a buffer area for expansion. In addition, the understorey will only be trimmed to reduce the bushfire hazard, and will retain native species that would provide corridors for pollinators.</p> <p>Offsets and contributions are discussed in the above response to OEH. Additionally, the proposed modification is not a new major project and, therefore, the <i>NSW Biodiversity Offsets Policy for Major Projects</i> (OEH 2014) does not apply.</p> <p>The BMP will include a requirement that a suitably qualified ecologist must be</p>                                                                                                                                                                                                                                                                                                                                                                                                          |

**Table 3.1**      **Summary of submissions and responses**

| Submission by | Comment summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | <p>ecologist to supervise clearing vegetation such as hollow bearing trees.</p> <p>Hollow bearing trees that must be removed to establish the APZ should be sectionally dismantled, the hollows recovered for reinstallation (eg cap and attach strapping) with retained vegetation, in preference to the installation of nesting boxes where possible.</p> <p>Removal of vegetation within the APZ should consider maintaining species diversity; re Council's condition in regard to removal of trees with poor health first, not removing hollow bearing trees within the APZ, having an appropriately qualified person assist in tree selection and removal taking into consideration the need to protect surrounding vegetation.</p> <p>The BMP should also include hygiene protocol to minimise the risk of transfer. Consider inclusion of Council's standard condition of consent. The BMP should include weed management along the newly created interface between the APZ and retained vegetation, in particular the EEC.</p> | <p>present to determine the trees and features to be retained in the APZ prior to clearing. This suitably qualified ecologist will also supervise the clearing of any hollow-bearing trees, and relocate any salvaged fauna to an appropriate location. It should be noted, however, that removal of hollow-bearing trees will be avoided where possible. The BMP will also include a commitment to use salvaged hollows (if hollow trees are required to be felled) in place of nest boxes, where practicable.</p> <p>Council's suggestion to sectionally dismantle hollow-bearing trees (if felling of hollow-bearing trees is unavoidable) is not considered necessary. The BMP will include procedures for a two-stage clearing process which gives fauna the chance to self-relocate the night prior to clearing.</p> <p>The BMP will also include a commitment that the ecologist would take any injured fauna to the nearest veterinary hospital for treatment before release. The BMP already contains weed control measures, and will be updated to include additional weed control in the APZs.</p> |
|               | <p><i>Transport</i></p> <p>WSC notes that neither the CVC or MC approvals specifically addressed staff parking (in reference to increase staff at CVC).</p> <p>As the MC approval in condition 21 has a requirement to upgrade the Ruttleys Road/Manner Colliery access road intersection to a types CHR treatment (SCC/69/2011), clarification is sought that the proposed modification does not include an increase of staff at the Mannering Colliery.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>The on-site car parking areas at CVC have capacity to accommodate the increase in staff proposed.</p> <p>Condition 21 of the MC project approval (MP06_0311) requires the upgrade of the Ruttleys Road/MC access road intersection to a type CHR treatment once employee numbers at MC reach 70. The corresponding modification to MP06_0311 does not require more than 20 full time employees at MC and, therefore, the upgrade to a CHR intersection will not be triggered by the proposed MC modification. Notwithstanding, LakeCoal is aware of the requirement under MP06_0311 and would undertake the intersection upgrade prior to the workforce once again reaching 70 full time personnel.</p>                                                                                                                                                                                                                                                                                                                                                                                                    |
|               | <p><i>Bushfire</i></p> <p>WSC notes that as the modification does not propose any additional built form infrastructure, it is recommended that the applicant consult with NSW Rural Fire Service in respect to bush fire requirements.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>Bushfire risks associated with the proposed modification were assessed in accordance with the Rural Fire Service's guideline <i>Planning for Bushfire Protection</i> (2006). LakeCoal will consult with RFS during the development of the CVC's Bushfire Management Plan.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## Appendix A

### Assessments of significance – Koala

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## A.1 Overview

This appendix provides assessments of significance under Section 5A of the EP&A Act and the EPBC Act for the Koala.

The assessments of significance have been completed in accordance with *Threatened Species Assessment Guidelines: The Assessment of Significance* (DECC 2007) and *EPBC Act Policy Statement 1.1 Significant Impact Guidelines: Matters of National Environmental Significance* (DEH 2006).

The Swamp Mahogany Swamp Forest to be thinned for the APZ and cleared for the fire access trails represents potential foraging habitat for the Koala. Swamp Mahogany is a primary food tree species for the Koala in the Central Coast region.

Evidence of Koalas was not recorded during dedicated scat surveys or by opportunistic observation. Additionally, targeted surveys (EMM unpublished data 2014; Ecotone Ecological Consultants 2010; NGH Environmental 2011) on the adjacent Delta Electricity Land failed to detect any individuals. Therefore, native vegetation in the proposed modification area, though representing potential feeding and potential movement habitat for the Koala, is not core Koala habitat.

## A.2 Assessment of significance for the Koala in accordance with Section 5A of the EP&A Act

1. in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction;

Actions that would lead to an adverse affect on the life cycle of the Koala would include those that clear large areas of known habitat and disrupt connectivity such that individuals cannot access mates during the breeding season. As the proposed modification will only remove a small area of potential Koala feeding and movement habitat, and will not disrupt connectivity as only small patches of vegetation on the periphery of existing cleared areas will be thinned and the majority of trees will be retained, it is not likely to have an adverse affect on the Koala life cycle such that the local population (if present) would be placed at a greater risk of extinction.

2. in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction;

The Koala is listed as a vulnerable species and, therefore, this question is not relevant to the assessment.

3. in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:
  - a) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction;
  - b) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction;

The Koala is listed as a vulnerable species and, therefore, this question is not relevant to the assessment.

4. in relation to the habitat of a threatened species, population or ecological community:

- a) the extent to which habitat is likely to be removed or modified as a result of the action proposed;
- b) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action;
- c) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality;

A small area (0.03 ha) of potential Koala foraging and movement habitat will be removed for the fire access road and approximately 0.22 ha selectively thinned for the APZ. A suitably qualified ecologist will be present on site prior to vegetation thinning for the APZs to select important features for retention. Large trees suitable for Koala foraging will be prioritised and retained, where possible, within the APZ.

This area of potential habitat will not become fragmented or isolated from the larger area of adjacent habitat. Small patches of vegetation will be selectively removed from an already cleared edge, maintaining connectivity.

- 5. whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly);

Critical habitat has not been declared for the Koala.

- 6. whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan; and

The Recovery Plan for the Koala (DECC 2008) focuses on conserving Koalas in existing areas of habitat and achieving a national awareness of Koalas, their conservation and habitat. As an existing population of Koalas does not occur at the site, the proposed modification does not interfere with the species recovery.

- 7. whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The proposed modification will contribute to the key threatening process 'clearing of native vegetation' as it will disturb one or more strata layers of vegetation. However, this contribution is minor as trees will be selectively removed within an area of potential Koala habitat, with the larger trees retained.

Conclusion: the proposed modification will not result in significant impacts for the Koala as:

- the clearing of large potential feed trees will be avoided and smaller trees within a small area of 0.22 ha will be selectively thinned;
- the area to be disturbed only represents potential Koala habitat as the species was not confirmed during dedicated surveys within and surrounding the proposed modification area; and
- connectivity will be maintained.

### A.3 Assessment of significance for the Koala in accordance with the EPBC Act

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:

- lead to a long-term decrease in the size of an important population of a species;

*EPBC Act Policy Statement 1.1 Significant Impact Guidelines* (DEH 2006) defines an important population as:

“...a population that is necessary for a species’ long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:

- key source populations either for breeding or dispersal;
- populations that are necessary for maintaining genetic diversity; and/or
- populations that are near the limit of the species range.

As Koalas have not been recorded within the site, it therefore does not contain a key source population for breeding or dispersal or one that is necessary for maintaining genetic diversity. The Koala is distributed from north-east Queensland to the Eyre Peninsula in South Australia. Therefore, the population in the wider locality is not at the limit of the species range. Accordingly, the site does not contain important habitat for the Koala as defined in *EPBC Act Policy Statement 1.1 Significant Impact Guidelines* (DEH 2006).

- reduce the area of occupancy of an important population;

For the reasons stated above, the area does not contain an important population of Koalas. Therefore, the proposed modification will not reduce the area of occupancy of an important Koala population.

- fragment an existing important population into two or more populations;

For the reasons stated above, the area does not contain an important population of Koalas. Therefore, the proposed modification will not fragment an important Koala population.

- adversely affect habitat critical to the survival of a species;

For the reasons stated above, the area does not contain an important population of Koalas or habitat critical to the survival of the Koala. Therefore, the proposed modification will not adversely affect habitat critical to the survival of the Koala.

- disrupt the breeding cycle of an important population;

For the reasons stated above, the area does not contain an important population of Koalas. Therefore, the proposed modification will not disrupt the breeding cycle of an important Koala population.

- modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline;

The proposed modification will selectively remove native vegetation within in a small area (0.03 ha) of potential Koala habitat and thin vegetation within a 0.22 ha area to satisfy the requirements of an APZ. Large trees that represent suitable Koala foraging habitat will be retained within the APZ. Given the small area of selective disturbance and its location relative to existing areas of disturbance, the proposed modification will not decrease the availability or quality of habitat to the extent that Koalas, if present, would decline.

- result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species habitat;

The CVC has an existing BMP that details weed management measures. The BMP will be updated to include weed management measures relevant to the proposed modification, and will be implemented prior to commencement.

- introduce disease that may cause the species to decline; or

The Koala is susceptible to Chlamydia. Disease outbreak generally occurs when an animal population is under significant stress. As Koalas are not known to occur at the site, and only a small area of potential habitat is being thinned, the proposed modification is considered unlikely to cause a disease outbreak.

- interfere substantially with the recovery of the species.

The *Recovery Plan for the Koala* (DECC 2008) focuses on conserving Koalas in existing areas of habitat, and achieving national awareness of Koalas, their conservation and habitat. As an existing population of Koalas does not occur at the site, the proposed modification does not interfere with these recovery actions.

Conclusion: the proposed modification will not result in significant impacts for the Koala as:

- the proposed modification area does not contain an important population of the Koala;
- the clearing of large potential feed trees will be avoided and smaller trees will be selectively thinned; and
- the area to be disturbed only represents potential Koala habitat as the species was not confirmed during dedicated surveys within and surrounding the proposed modification area.

## Appendix B

### Revised statement of commitments

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**Table B.1**      **Commitments**

| <b>Aspect</b>       | <b>Commitment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Terrestrial ecology | <p>CVC's BMP will be updated to include the following:</p> <ul style="list-style-type: none"> <li>• the completion of pre-disturbance surveys in the survey area for Black-eyed Susan, Leafless Tongue Orchid and Variable Midge Orchid during their flowering periods (July to December, November to February and September to October, respectively);</li> <li>• pre-disturbance surveys by an ecologist to determine the important components of vegetation communities and fauna habitats that should be preferentially retained in the APZs;</li> <li>• installation of delineation fencing around threatened flora populations (if found) to ensure their protection during development and maintenance of the APZs;</li> <li>• condition monitoring for threatened flora populations (if found);</li> <li>• retention of hollow-bearing trees in the APZs, where possible, with details to be included in a hollow tree register;</li> <li>• installation of nest boxes (or salvaged hollows) within the APZs under the supervision of a suitably qualified ecologist or wildlife carer to replace hollows where hollow-bearing trees cannot be retained;</li> <li>• measures for APZ maintenance that include weed control;</li> <li>• clearing of hollow-bearing trees (if required) under the supervision of a suitably qualified ecologist;</li> <li>• any injured fauna would be taken to the nearest veterinary hospital for treatment before release; and</li> <li>• relocation of suitable hollow-bearing felled trees adjacent to the APZs to create additional fauna habitat.</li> </ul> <p>LakeCoal will investigate one of the following options in consultation with OEH to offset the biodiversity impacts arising from the proposed modification:</p> <ul style="list-style-type: none"> <li>• provide \$10,000 of funding, which is equivalent to the biodiversity being lost (ie 5 credits x \$2,000 per credit) to existing environmental programs at the site which benefits the Swamp Sclerophyll Forest EEC; or</li> <li>• consult with OEH to identify a suitable conservation program and provide \$10,000 of funding; or</li> <li>• purchase and retire 5 credits on the Biobanking register.</li> </ul> |
| Surface water       | CVC's WMP will be updated to include any changes as a result of the proposed modification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Aboriginal heritage | CVC's HMP will be reviewed and revised to remove site #45-7-0154 and incorporate any other changes required as a result of the proposed modification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Subsidence          | LakeCoal to provide raw subsidence survey data to OEH within 7 days of completion.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |







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