



Office of  
Environment  
& Heritage

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SSD 5144 MOD 4

Ms Genevieve Seed  
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Department of Planning and Environment  
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Dear Ms Seed

**Mandalong Southern Extension Project Modification 4 - Extension of Longwall Panels 22 and 23 (SSD 5144 MOD 4)**

I refer to your e-mail dated 28 November 2016 seeking advice from the office of Environment and Heritage (OEH) on the proposed modification of the Mandalong Southern Extension Project. OEH understands that the proposed modification involves the extension of Longwall Panels 22 and 23 and the extraction of approximately 1.4 million tonnes of additional coal from the extended panels. If approved longwall mining would lead to vertical mine subsidence of up to 0.96 metres over an additional area of 172.04 hectares. The project does not require any new vegetation clearing.

OEH reviewed the Statement of Environmental Effects (SEE) prepared for this project in relation to flooding issues, threatened biodiversity and Aboriginal cultural heritage matters. The SEE identified that the proponent was unable to fully assess the biodiversity value of the land above the longwall panels due to land access problems, and as such they conducted a risk assessment based on available data. This does not comply with the requirements of the Framework for Biodiversity Assessment, however, it may be addressed by the provision of an expert report. Further details, with recommended conditions of consent are provided in **Attachment A**.

If you require any further information regarding this matter please contact Robert Gibson, Regional Biodiversity Conservation Officer, on 4927 3154.

Yours sincerely



15 DEC 2016

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

Enclosure: Attachment A

## **ATTACHMENT A: OEH REVIEW OF THE STATEMENT OF ENVIRONMENTAL EFFECTS - PROPOSED MODIFICATION 4 OF THE MANDALONG SOUTHERN EXTENSION PROJECT (SSD 5144 MOD 4)**

OEH reviewed the report titled: *Statement of Environmental Effects: Mandalong Mine: State Significant Development 5144 – Modification* (SEE) prepared by Centennial Coal Company Limited, and dated November 2016. The SEE was reviewed in relation to flooding issues, threatened biodiversity and Aboriginal cultural heritage matters. Comments and recommended conditions of consent are presented below:

### **ABORIGINAL CULTURAL HERITAGE ASSESSMENT**

OEH reviewed the cultural heritage assessment provided in Section 9.4 of the SEE and Appendix 7 'Heritage Impact Assessment' (RPS, 2016). Four Aboriginal heritage sites were reported from within the Study Area based on an on-ground survey. Predicted mine subsidence from longwall extraction is predicted to be up to 0.96 metres and lead to increase ponding of water near the western end of LW22. No surface cracking is expected, and strains and tilts are expected to be minimal (Seedsman Geotechnics Pty Ltd, 2016) [provided in Appendix 4 of the SEE]. No impacts to identified Aboriginal heritage sites within the vicinity of the Study Area are predicted as a result of the proposed modification to extend the longwall mining operations of Longwalls 22 and 23.

The proponent, in consultation with the registered Aboriginal parties, propose to manage Aboriginal heritage under Centennial Coal's Northern Region Aboriginal Cultural Heritage Management Plan. This plan will be updated to include the location and significance of the sites found in the Study Area.

OEH therefore has no concerns with respect to Aboriginal cultural heritage management for this project. OEH recommends that the following conditions be included in any consent granted for this project:

#### **Recommended Conditions of Consent for Aboriginal cultural heritage:**

1. Aboriginal cultural heritage management for the proposed modification must be undertaken in accordance with the approved Northern Region Aboriginal Cultural Heritage Management Plan.
2. The proponent must update the existing Northern Region Aboriginal Cultural Heritage Management Plan to include any Aboriginal cultural constraints within the project area prior to commencing any ground disturbance or development works subject to this development.

### **FLOODING AND FLOODPLAIN MANAGEMENT**

The 'Water Resources Impact Assessment' prepared by GHD Australia Pty Ltd, dated November 2016 was presented as Appendix 5 in the SEE. OEH reviewed this report for flooding issues and found it difficult to locate the relevant information for this Modification in this multi-part appendix. The main report talks about a number of dwellings and properties being adversely impacted by flooding. However, only two properties are affected by the current application (MOD 4). These are properties designated 73 and 206. Neither of these properties are predicted to be adversely affected flood-wise by the modification. Therefore, OEH has no objection to the current application. The adversely affected properties are above sections of the mine approved some time ago.

The water assessment shows that the previous approval already has, or soon will have, an adverse impact on some private properties from increased flood frequency. Granting approval without indemnity transfers liability from the mine to the NSW Government. This is not supported by OEH.

OEH has no further comments to make in relation to flooding issues for this project.



## **THREATENED SPECIES**

The 'Ecological Impact Assessment' prepared by RPS Australia East Pty Ltd, dated November 2016 was presented as Appendix 6 in the SEE. The ecological assessment is based on desktop assessment, limited field surveys, and the application of the precautionary principle in relation to potential impacts to threatened species, threatened populations and threatened ecological communities by the proposed development. It concluded that the project could have an impact on one or more of the following threatened entities:

- Biconvex Paperbark (*Melaleuca biconvexa*)
- Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions Endangered Ecological Community (EEC)
- Lower Hunter Spotted Gum – Ironbark Forest in the Sydney Basin Bioregion EEC
- Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregion EEC
- River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions EEC.

The assessment relied heavily on an updated vegetation map for the land above longwall panels 22 and 23 undertaken by HunterEco (2016), and the likelihood that the main impacts of mine subsidence will be caused by the increased extent and duration of water ponding in some areas. The impact on threatened biodiversity likely caused by the project was considered not to be significant, and a monitoring programme (as part of the longwall Extraction Plan) was recommended to detect any potential impacts to threatened impacts due to longwall mining associated with this project.

The Ecological Impact Assessment did not meet OEH's biodiversity survey requirements [[www.environment.nsw.gov.au/surveys/GuidelinesForCarryingOutASurvey.htm](http://www.environment.nsw.gov.au/surveys/GuidelinesForCarryingOutASurvey.htm)] and as such the biodiversity value of the project area is not fully known. While OEH acknowledges that the new project does not involve any new land clearing and that the main impacts will be from mine subsidence leading to waterlogging from increased water ponding. Without adequate survey prior to mining it will be difficult to prepare baseline information against which to compare post-mine impacts, and without adequate access to the land above the new longwall panels it appears unlikely that such survey and monitoring can be implemented.

The proponent used the 7-part test to assess the likely impact of resulting mine subsidence on threatened biodiversity, which concluded that the project would not have a significance impact on threatened species, populations or communities. However, offsetting is based on impacts and how they fall within current OEH biodiversity offsetting policy (OEH, 2014a). The project may still require an offset, particularly if unexpected mine subsidence occurs, such as if mining intersected poorly-known vertical, or sub-vertical joint zones, dykes or faults that transfer more of the mine void to the surface than expected.

Section 2.4 of the Ecological Assessment Report states that it was not possible to conduct a full biodiversity assessment across the project area, and yet Section 4.3 of the Ecological Assessment Report proposes that if the project is given consent that it includes a monitoring programme of biodiversity pre- and post-mining. This suggests that at least some of the current land access issues are expected to be resolved. No details of sample density or sample location are provided, and it is not clear where the monitoring sites would occur in relation to local occurrences of *Melaleuca biconvexa* (*M. biconvexa* occurrences depicted in Figure 3 of the Ecological Assessment Report are unclear) or putative EEC's. OEH notes that many other longwall panels in the Mandalong Mine have had on-ground surveys along the centreline and some crosslines to measure mine subsidence impacts, and it is not known if this is intended for the extended longwall panels 22 and 23. If on-ground surveys to measure mine subsidence are planned for the Extraction Plan for these new areas of mining then this may provide the opportunity required for at least some of the biodiversity monitoring planned. Otherwise, the proponent may consider LiDAR surveys to measure changes in land height before and after mining, and to therefore map areas affected by mine subsidence across the project area, and to focus biodiversity survey efforts of those areas. An alternative to such biodiversity survey is for the

production of an 'Expert Report', as described in Section 6.6.2 of the *Framework for Biodiversity Assessment* (OEH, 2014b).

The lack of adequate survey of the project area undertaken to date is problematic. While the impacts of mine subsidence from extended longwall panels 22 and 23 are likely to be minor, they may not be if poorly known faults, shear zones or other geological structures are intersected that transfer more of the mining void to the surface. Therefore for this project OEH recommends the following conditions of consent.

#### **Recommended Conditions of Consent for Threatened Species:**

1. That prior to mining commencing, the biodiversity value of the area is quantified by appropriate survey, or if that is not possible then that the proponent commissions an expert report on the threatened biodiversity values of the site, in accordance with the *Framework for Biodiversity Assessment* (OEH, 2014b).
2. That any harm to threatened biodiversity caused by the mining of the new longwall panel areas is assessed by the Framework for Biodiversity Assessment, and, if required, offset in accordance with the *NSW Biodiversity Offsets Policy for Major Projects* (OEH, 2014a).

#### **References**

HunterEco (2016) *Centennial Mandalong LW22-24a EP Vegetation Communities*. HunterEco, Toronto.

OEH (2014a) *NSW Biodiversity Offsets Policy for Major Projects*. September 2016. NSW Office of Environment and Heritage, Sydney. [www.environment.nsw.gov.au/resources/biodiversity/140672biopolicy.pdf](http://www.environment.nsw.gov.au/resources/biodiversity/140672biopolicy.pdf)

OEH (2014b) *Framework for Biodiversity Assessment*. September 2016. NSW Office of Environment and Heritage, Sydney. [www.environment.nsw.gov.au/resources/biodiversity/140675fba.pdf](http://www.environment.nsw.gov.au/resources/biodiversity/140675fba.pdf)

RPS Australia (East Pty Ltd (2016) *Mandalong Mine Heritage Impact Assessment: Longwall 22 & 23 Modification*. November 2016. RPS Australia East Pty Ltd, Broadmeadow.

Seedsman Geotechnics Pty Ltd (2016) *Centennial Mandalong Pty Ltd: Prediction of Subsidence Impacts for LW 22 – LW23*. October 2016. Seedsman Geotechnics Pty Ltd.