



Our ref: DOC21/830836-26

Your ref: SSD-10333

Ms Melissa Anderson

Senior Planning Officer
Energy Resource Assessment
Planning and Assessment Division
Department of Planning, Industry and Environment
melissa.anderson@planning.nsw.gov.au

Dear Ms Anderson

Newstan Mine Extension Project (SSD-10333) – Review of Environmental Impact Statement

I refer to your e-mail dated 22 September 2021 in which the Planning and Assessment Division (P&A) of the Department of Planning, Industry and Environment (the Department) invited Biodiversity and Conservation Division (BCD) for advice in relation to the Newstan Mine Extension Project (SSD-10333).

BCD has reviewed the Environmental Impact Statement (EIS), including relevant appendices, in relation to impacts on biodiversity (including matters of national environmental significance [MNES] under the *Environment Protection and Biodiversity Conservation Act 1999*) and flood risk assessment.

BCD's recommendations are provided in **Attachment A** and detailed comments are provided in **Attachment B**. If you require any further information regarding this matter, please contact Robert Gibson, Regional Biodiversity Conservation Officer, on 4927 3154 or via email at huntercentralcoast@environment.nsw.gov.au

Yours sincerely

A handwritten signature in black ink, appearing to read 'S. Crick', with a stylized flourish at the end.

STEVEN CRICK
Senior Team Leader Planning
Hunter Central Coast Branch
Biodiversity and Conservation Division

19 October 2021

Enclosure: Attachments A and B

BCD's recommendations

Newstan Mine Extension Project (SSD-10333) – Review of EIS

Biodiversity

1. The BDAR should be revised and resubmitted so that it meets the requirements of Section 6.15(1) of the *Biodiversity Conservation Act 2016* and Clause 6.31 of the Biodiversity Conservation Regulation 2017.
2. The BAM credit calculator file should be finalised and submitted to BOAMs so that it meets the requirements of Section 6.15(1) of the *Biodiversity Conservation Act 2016* and Clause 6.31 of the Biodiversity Conservation Regulation 2017.
3. Copies of letters of identification from the National Herbarium of NSW for the large local population of *Corybas dowlingii*, range extensions of *Astrotricha crassifolia* and *Telopea speciosissima*, and plants of uncertain identification that could be threatened species should be included in the Response to Submissions Report.
4. The proponent should prepare a biodiversity offset strategy for the clearing of 0.32 hectares of native vegetation for the project, for both ecosystem and species credits.
5. Any potential impacts to biodiversity associated with mine subsidence should be assessed by the Biodiversity Assessment Method, and where thresholds of the NSW Biodiversity Offset Scheme are exceeded that they should be appropriately offset.
6. BCD recommends that further details are provided on the survey effort for *Angophora inopina*, *Eucalyptus camfieldii*, *E. oblonga*, *E. parramattensis* subsp. *decadens*, *E. parramattensis* subsp. *parramattensis*, *Melaleuca biconvexa*, *M. groveana*, *Astrotricha crassifolia*, *Callistemon linearifolius*, *Senna acclinis*, *Syzygium paniculatum*, *Acacia bynoeana*, *Darwinia glaucophylla*, *Grevillea parviflora* subsp. *parviflora*, *Hibbertia procumbens*, *Persoonia hirsuta* subsp. *hirsuta*, *Prostanthera askania*, *P. junonis*, *Pelargonium* sp. *Striatellum*, *Rutidosia heterogama*, *Caladenia tessellata*, *Corybas dowlingii*, *Cynanchum elegans*, *Cryptostylis hunteriana*, *Diuris bracteata*, *Diuris praecox*, *Genoplesium insigne*, *Persicaria elatior*, *Tetratheca glandulosa*, *T. juncea*, *Maundia triglochinoides* and *Zannichellia palustris*.
7. The BDAR should be amended to include the minimum information requirements outlined in the BAM.

Matters of National Environmental Significance

8. The additional information required for the assessment of Matters of National Environmental Significance outlined in this letter should be included in Section 5.8 of Appendix A of the BDAR.

Flooding and flood risk

9. BCD recommends that a monitoring and management plan are developed for the watercourses:
 - Stockyard Creek (WC4a) and an unnamed tributary (WC4b)
 - unnamed watercourses (WC8, WC20a, WC20b and WC20-US); and

- an unnamed watercourse north-west of the Eraring Energy site.

The monitoring program is required to regularly visually inspect active erosion (bank, bed and headcut erosion), increased sedimentation, altered flow path position and potential threats to infrastructure. All observations are to be recorded and photographed.

If stabilisation works are required, then:

- Stabilisation works are to match the pre-disturbance watercourse type and minimise disturbance to the surrounding environment during construction.
- Watercourse condition is recorded before and after stabilisation works are undertaken. Any stabilisation works are monitored regularly for signs of erosion or failure. If continued erosion is observed following stabilisation, further investigation and management is undertaken to resolve the disturbance.
- All management efforts are to be recorded and photographed.

Monitoring of watercourse condition throughout the entire study area are to be undertaken prior to, during and after mining activities to ensure that any unpredicted impacts are captured. If impacts to watercourse are observed, targeted watercourse management plans are to be developed and appropriate management practices applied.

BCD's detailed comments

Newstan Mine Extension Project (SSD-10333) – Review of EIS

Biodiversity

1. The BDAR must be revised and resubmitted

Section 6.15(1) of the *Biodiversity Conservation Act 2016* (BC Act) requires a Biodiversity Development Assessment Report (BDAR) to be submitted within 14 days of the date that the credit report was finalised to be considered valid. The BDAR for the Newstan Mine Extension project is dated 22 March 2020 and was signed on the 22 May 2020. Appendix B of the BDAR presents a Biodiversity Assessment Method (BAM) credit summary report which is also dated 22 May 2020. The BDAR forms Appendix M of the Environmental Impact Statement (EIS) for the Newstan Mine Extension project which is on public exhibition from 22 September to 19 October 2021. The BDAR therefore does not meet the requirement of the BC Act.

The BDAR should be revised to check the current details of the Biodiversity Values mapping of the Study Area as it was last accessed in August 2018 according to Section 1.4 of the BDAR. It should demonstrate that all candidate threatened species were considered, and were surveyed in accordance with survey guidelines, including additional survey requirements in the Threatened Biodiversity Data Collection (TBDC). Additionally, species like *Tetratheca juncea* are now assessed by the area of suitable habitat, rather than an estimated count of individual plants.

The BDAR for this project was prepared in accordance with BAM 2017. However, as per Clause 6.31 of the Biodiversity Conservation Regulation 2017, BDARs made under BAM 2017 will not be accepted after 22 October 2021. Therefore, the revised BDAR should be prepared in accordance with BAM 2020.

Recommendation 1

The BDAR should be revised and resubmitted so that it meets the requirements of Section 6.15(1) of the *Biodiversity Conservation Act 2016* and Clause 6.31 of the Biodiversity Conservation Regulation 2017.

2. The BAM calculator must be finalised and submitted

Appendix B 'BAM Credit Summary Report' of the BDAR shows that the BAM calculator file was not finalised and it has not been submitted to the Biodiversity Offsets and Agreements Systems (BOAMS). BCD recommends that the BAM calculator file is checked for currency and submitted to BOAMS within 14 days of the revised BDAR being finalised so that the two files are consistent. This will meet the requirements of Section 6.15(1) of the *Biodiversity Conservation Act 2016* and Clause 6.31 of the Biodiversity Conservation Regulation 2017. BCD recommends that the Hunter Central Coast Regional Planning Team (C-011729) is added as case party to the calculator file so that BCD will have access to it.

Recommendation 2

The BAM credit calculator file should be finalised and submitted to BOAMS so that it meets the requirements of Section 6.15(1) of the *Biodiversity Conservation Act 2016* and Clause 6.31 of the Biodiversity Conservation Regulation 2017.

3. Significant and unknown plants from targeted flora surveys require verification

Section 3.2.4 'Targeted flora surveys' in Appendix A of the BDAR states that specimens of significant or unknown plants found during targeted flora surveys were collected, with some sent to the National Herbarium of NSW for identification. Appendix C2 'Flora results' of Appendix A of the BDAR is a list of plant taxa recorded during field surveys. The list includes about 37 taxa identified to genus level only, including *Microtis*, *Genoplesium*, *Hibbertia*, *Melaleuca* and *Pterostylis* which all have local threatened species. The list also includes *Astrotricha crassifolia* and *Telopea speciosissima*, which represent range extensions for these significant species. The BDAR also presents data for a significant newly recorded population of *Corybas dowlingii*. Copies of identification letters from the National Herbarium of NSW for these records should be included in the Response to Submissions Report.

Recommendation 3

Copies of letters of identification from the National Herbarium of NSW for the large local population of *Corybas dowlingii*, range extensions of *Astrotricha crassifolia* and *Telopea speciosissima*, and plants of uncertain identification that could be threatened species should be included in the Response to Submissions Report.

4. A biodiversity offset strategy is required for the planned clearing of 0.32 hectares

A biodiversity offset strategy is required for the measured impact of clearing 0.32 hectares for the project. Section 5.2 'Direct impact' of Appendix A of the BDAR and Table 21 'Proposed infrastructure associated with the clearing of native vegetation (PCTs) and associated offset liabilities' of the BDAR (Main Report, pg. 75) discusses the direct impact of the planned clearing of 0.32 hectares of native vegetation and threatened species habitat for the project. However, Chapter 9 'Conclusion' of the BDAR (Main Report, pg. 78) does not include a biodiversity offset strategy for these impacts for which the offset obligation is provided in Appendix B 'Credit Summary Report'. A biodiversity offset strategy should be provided for the clearing of 0.32 hectares, for both ecosystem credits, and species credits.

Recommendation 4

The proponent should prepare a biodiversity offset strategy for the clearing of 0.32 hectares of native vegetation for the project, for both ecosystem and species credits.

5. Unexpected impacts to biodiversity from mine subsidence must be assessed by the BAM

Page 54 of the Mine Subsidence Assessment (MSEC, 2021) states that there is the potential for sinkholes to develop along drainage lines and that surface cracks could occur, all above the Awaba mine void. New saline seeps could also form if water from the Awaba mine void finds new ways to the surface. These may all adversely impact biodiversity. BCD recommends that any impacts to biodiversity caused by subsidence cracks, saline seeps or changes to creek flow due to sinkholes are assessed by the Biodiversity Assessment Method, and if the NSW Biodiversity Offset Scheme threshold is triggered that they are appropriately offset.

Recommendation 5

Any potential impacts to biodiversity associated with mine subsidence should be assessed by the Biodiversity Assessment Method, and where thresholds of the NSW Biodiversity Offset Scheme are exceeded that they should be appropriately offset.

6. Further details are required of survey effort for 32 threatened plant species

The BDAR does not provide enough detail about how the targeted survey effort for 32 threatened plant species meets BCD's threatened plant survey guidelines (NSW Guide to Surveying Threatened Plants', February 2016). Section 3.2.4 'Targeted Flora Surveys' of Appendix 1 of the BDAR describes the targeted survey for threatened plants as a series of parallel transects done in accordance with the Threatened Flora Survey Guidelines (OEH, 2016). It includes Table 5 'Maximum distances between parallel transects' but does not discuss if nor how transect separation was changed in relation to vegetation density (transects are closer together where the vegetation is dense). Transect separation distances from the survey guidelines for the species listed in BDAR Appendix A, Table 5 are provided below, and the maximum allowed transect spacing is too far apart in areas of dense vegetation:

Trees, mallee trees and tall shrubs (6 metres) – transects up to 40 metres apart in open vegetation or up to 20 metres apart in dense vegetation.

- *Angophora inopina*
- *Eucalyptus camfieldii*
- *Eucalyptus oblonga*
- *Eucalyptus parramattensis* subsp. *decadens*
- *Eucalyptus parramattensis* subsp. *parramattensis*
- *Melaleuca biconvexa*
- *Melaleuca groveana*

Medium shrubs (1-6 metres) – transects up to 20 metres apart in open vegetation, or up to 10 metres apart in dense vegetation.

- *Astrotricha crassifolia*
- *Callistemon linearifolius*
- *Senna acclinis*
- *Syzygium paniculatum*

Sub shrubs (<1 metre) – transects up to 15 metres apart in open vegetation, or up to 10 metres apart in dense vegetation.

- *Acacia bynoeana*
- *Darwinia glaucophylla*
- *Grevillea parviflora* subsp. *parviflora*
- *Hibbertia procumbens*
- *Persoonia hirsuta* subsp. *hirsuta*
- *Prostanthera askania*

- *Prostanthera junonis*

Herbs and forbs – transects up to 10 metres apart in open vegetation or up to 5 metres apart in dense vegetation.

- *Pelargonium* sp. *Striatellum*
- *Rutidosis heterogama*

Orchids, epiphytes and climbers – transects up to 10 metres apart in open vegetation or up to 5 metres apart in dense vegetation.

- *Caladenia tessellata*
- *Corybas dowlingi*
- *Cynanchum elegans*
- *Cryptostylis hunteriana*
- *Diuris bracteata*
- *Diuris praecox*
- *Genoplesium insigne*
- *Persicaria elatior*
- *Tetratheca glandulosa*
- *Tetratheca juncea*

Aquatic plants – search the appropriate parts of the water body by using a traverse coverage appropriate for the species' growth form.

- *Maundia triglochinoides*
- *Zannichellia palustris*

BCD recommends that further information on threatened flora survey effort is provided that describes how BCD's threatened plant survey guidelines have been met, particularly in relation to width of survey transect, the density of the vegetation, survey methodology, and the dates of the surveys. If BCD's survey guidelines have not been met, further survey may be required, or an Expert Report may be prepared, or the species may be assumed to be present.

Further, the BDAR suggests that multi-species searches may have been used but does not discuss how this may have been done. Section 5.1 of the Threatened Flora Survey Guidelines (OEH, 2016) recommends that no more than five threatened species are searched for at a time, and that all must be in the same stratum so as not to compromise detectability. It is not clear how this issue was approached for this project.

Recommendation 6

BCD recommends that further details are provided on the survey effort for *Angophora inopina*, *Eucalyptus camfieldii*, *E. oblonga*, *E. parramattensis* subsp. *decadens*, *E. parramattensis* subsp. *parramattensis*, *Melaleuca biconvexa*, *M. groveana*, *Astrotricha*

crassifolia, *Callistemon linearifolius*, *Senna acclinis*, *Syzygium paniculatum*, *Acacia bynoeana*, *Darwinia glaucophylla*, *Grevillea parviflora* subsp. *parviflora*, *Hibbertia procumbens*, *Persoonia hirsuta* subsp. *hirsuta*, *Prostanthera askania*, *P. junonis*, *Pelargonium* sp. *Striatellum*, *Rutidosia heterogama*, *Caladenia tessellata*, *Corybas dowlingii*, *Cynanchum elegans*, *Cryptostylis hunteriana*, *Diuris bracteata*, *Diuris praecox*, *Genoplesium insigne*, *Persicaria elatior*, *Tetratheca glandulosa*, *T. juncea*, *Maundia triglochinos* and *Zannichellia palustris*.

7. The BDAR requires additional information

BCD has been reviewed the BDAR against Table 25 of the Biodiversity Assessment Method 2017 (Minimum information requirements) and found the following information to be missing:

- A map, or maps, of drainage lines within the Study Area shown by their Strahler stream order
- Plant Community Type options considered to match on-ground vegetation and the degree of confidence in the match
- Provide the dates when the 41 BAM flora plots were conducted (this is not stated in Section 3.3.1.2 'Floristic Survey')
- Provide copies of the 41 BAM flora plot survey sheets (as required by Table 25 of the BAM 2017)
- Section 3.5 'Dates and Weather Conditions' requires a discussion on prevailing seasonal conditions, including rainfall over the three months preceding surveys, and how they affect detectability for different threatened species. For example, ground orchids such as *Cryptostylis hunteriana* flower less reliably after a dry winter and spring
- The value given for the 'Biodiversity Risk Weighting' in Table 16 'Summary of species credit species surveyed within the Study Area' in the BDAR *Main Report, pages 40 to 44) is incorrect. The value given in the table appears to be the 'Level of Biodiversity Concern' from the Threatened Biodiversity Data Collection (TBDC). The Biodiversity Risk Weighting is a number, to two decimal places that is also found in the TBDC.

Recommendation 7

The BDAR should be amended to include the minimum information requirements outlined in the BAM.

Matters of National Environmental Significance

8. Further information is required on the assessment of Matters of National Environmental Significance

Section 5.8 of Appendix A 'Biodiversity Inventory Report' of the BDAR is the Commonwealth Assessment of the impacts of the project on Matters of National Environmental Significance (MNES). It was prepared to address requirements of the SEARs and that the 'Project Assessment Notes' from the Commonwealth Department of Energy and Environment (DAWE) (dated 10 January 2020) given the project was deemed to be a controlled action under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC 2019/8528).

BCD will undertake a bilateral assessment of MNES for the project. Some of the information required for this assessment is presented in Section 5.8, and other parts of the BDAR, however, additional information specific to the assessment of MNES for the project is required. Section 5.8 should contain the following information:

- Details of the BAM credit type of all MNES-listed threatened species, that is whether they are species credit species, ecosystem credit species or dual credit species. This may be provided by adding an extra column for 'BAM credit type' to Table 16 'Migratory birds listed under the EPBC Act' and Table 17 'EPBC Act Listed Threatened Species' from Appendix A of the BDAR.
- Show how EPBC Act-listed threatened species that are ecosystem credit species were adequately considered for the project.
- Show how dual credit species were assessed, and whether breeding habitat, 'core' habitat, or DPIES's 'Important Area Mapping' is present on the Project area.
- Provide the areas of occurrence or area of habitat and BAM credit liabilities for each MNES entity assessed for the Project.
- Where the proponent disagrees with DAWE's assessment in the Referral Decision brief that a particular species or ecological community is likely to be, or may be, significantly impacted by the project, such as by mine subsidence, then a case needs to be made in the MNES assessment report.
- Provide a test of significance for the Curlew Sandpiper, Eastern Curlew, Red Knot, Australasian Bittern, White-throated Needletail, Stuttering Frog and Littlejohn's Tree Frog to supplement the information provided in Appendix D 'EPBC Act Assessment of Significance' that forms part of Appendix A 'Biodiversity Inventory Report'.
- Describe the nature and extent of all likely significant impacts to MNES by the Project.
- Discuss the likely direct, indirect, cumulative and consequential impacts relevant to MNES.
- Describe the size and nature of the impacts on the species, the populations and/or the extent of the community (including discussion of the scale of impact in relation to local, regional, state and national populations / habitat).
- Discuss the nature and significance of impacts in the context of any relevant Approved Conservation Advice. BCD notes that Conservation Advice is only cited in the BDAR for the Australian Painted Snipe.
- Include reference to any relevant policies or plans such as Recovery Plans and Threat Abatement Plans for each MNES. BCD notes that only one Conservation Advice document is cited in the BDAR (for the Australian Painted Snipe).
- Provide a table of all EPBC Act-listed TECs that may be significantly impacted by the project. For each Endangered Ecological Community, list the associated Plant Community Type (PCT) in the development footprint. Provide the area and number of ecosystem credits for each PCT.

- Provide a table of all EPBC Act-listed species that may be significantly impacted by the project. For each species identify its credit type in BAM, list the associated PCTs that contain habitat for each species, and provide the area of impact and credits required by each PCT
- Discuss measures to avoid, mitigate or offset impacts for each MNES entity that are particular to the EPBC Act. These may be presented in Approved Conservation Advice, Recovery Plans and Threat Abatement Plans.
- Details of any offsets proposed in relation to residual significant adverse impacts, how they provide a like-for-like outcome, and how any land-based offsets will be secured. This must include an analysis of how the proposed offsets will contribute to the conservation and long-term protection of the species and communities. This must include an assessment of any indirect impacts that may require offsetting. The assessment of the adequacy of impacts for this project will require any offset land to be assessed by the BAM.
- Discuss how like-for-like offsets will be provided for impacted MNES threatened species and TECs. This must include MNES entities that are not fully considered under the BAM (e.g. ecosystem credit species, species not listed under the BC Act (e.g. migratory species), and Threatened Ecological Communities that have a different definition under the EPBC Act).
- Show how the biodiversity values for the proposed offset components have been determined using the BAM.
- Provide a table of the offset requirements for the project that lists for each MNES entity the credit obligation to be offset, the credits generated from offsets in remnant vegetation, the credits generated from any other means, and a discussion on how the offset meets the like-for-like requirements of the EPBC Act.

Recommendation 8

The additional information required for the assessment of Matters of National Environmental Significance outlined in this letter should be included in Section 5.8 of Appendix A of the BDAR.

Flooding and flood risk

9. Subsidence of watercourses pose a threat to key infrastructure and stream bank stability

The Flood Impact Assessment identified that the subsidence of several watercourses poses a potential threat to nearby key infrastructure. Watercourses identified as being of moderate to high risk include sections of

- Stockyard Creek (WC4a) and an unnamed tributary (WC4b)
- unnamed watercourses (WC8, WC20a, WC20b and WC20-US); and
- an unnamed watercourse north-west of the Eraring Energy site.

Geomorphic impacts from subsidence may threaten key infrastructure if headcut retreat is initiated in reaches immediately below infrastructure. There is potential risk to the Northern Railway loop from subsidence of the tributaries of Stockyard Creek that intersect or flow below

the railway embankment. These reaches are currently swamp systems on the uppermost gradient for the watercourse.

The watercourse geomorphology assessment recommended that targeted monitoring and management plans are developed for watercourses with a moderate or high geomorphic risk rating. Regular visual inspections will allow identification of problem areas and potential threats to nearby infrastructure, as well as development and implementation of appropriate stabilisation techniques as required.

Recommendation 7

BCD recommends that a monitoring and management plan are developed for the watercourses:

- Stockyard Creek (WC4a) and an unnamed tributary (WC4b)
- unnamed watercourses (WC8, WC20a, WC20b and WC20-US); and
- an unnamed watercourse north-west of the Eraring Energy site.

The monitoring program is required to regularly visually inspect active erosion (bank, bed and headcut erosion), increased sedimentation, altered flow path position and potential threats to infrastructure. All observations are to be recorded and photographed.

If stabilisation works are required, then:

- Stabilisation works are to match the pre-disturbance watercourse type and minimise disturbance to the surrounding environment during construction.
- Watercourse condition is recorded before and after stabilisation works are undertaken. Any stabilisation works are monitored regularly for signs of erosion or failure. If continued erosion is observed following stabilisation, further investigation and management is undertaken to resolve the disturbance.
- All management efforts are to be recorded and photographed.

Monitoring of watercourse condition throughout the entire study area are to be undertaken prior to, during and after mining activities to ensure that any unpredicted impacts are captured. If impacts to watercourse are observed, targeted watercourse management plans are to be developed and appropriate management practices applied.