



Your ref: SSD-30448824

Our ref: DOC24/558141

Tatsiana Bandaruk
Team Leader Environmental Assessments
Department of Planning, Housing and Infrastructure

Via Major Projects Portal: PAE-73246714

Dear Tatsiana

Subject: Junction Rivers Wind Farm (SSD-30448824)

Thank you for your email dated 11 July 2024 seeking advice from the Biodiversity, Conservation and Science Group (BCS) of the NSW Department of Climate Change, Energy, the Environment and Water about the Environmental Impact Statement (EIS). Please note that this response represents the combined advice of BCS and the NSW National Parks and Wildlife Services (NPWS).

We note that the complete spatial data package for the project was not submitted to BCS until 24 July 2024. Detailed review of a BDAR cannot commence until all the required data has been provided. Regrettably, we were not able to meet the statutory agency response deadline due to the delay in receiving the required data.

We have reviewed the exhibited EIS against the Secretary's Environmental Assessment Requirements (SEARs) which were updated and extended on 19 December 2023, BCS SEARs input dated 10 December 2021 and the Supplementary SEARs (Junction Rivers Wind Farm (EPBC 2023/09603)).

BCS considers that the EIS does meet the Secretary's requirements for flooding, contingent on the applicant addressing issues 1 to 4 identified in Attachment A.

BCS considers that the EIS does not meet the Secretary's requirements for biodiversity.

BCS has identified that the Biodiversity Development Assessment Report (BDAR) is not currently consistent with the Biodiversity Assessment Method (BAM). There are several matters that will need to be rectified in a revised BDAR, including an updated Bird and Bat Adaptive Management Plan (BBAMP) to meet the SEARs for biodiversity. Until the assessment is complete, the biodiversity credit liability may not be correct.

To resolve the issues and meet the requirements of the BAM and SEARs, the applicant and their BAM accredited assessor can engage with BCS and NPWS throughout the Response to Submissions stage to address the recommendations identified in Attachment A.

In summary, the key issues that need addressing are:

- The impact of operation on bird and bats at risk of turbine strike needs to be adequately assessed and further survey work is required
- Targeted threatened species surveys are not consistent with BAM requirements and the assessment contains omissions that will affect the credit obligation
- Additional and more specific detail, and removal of non-binding terms, are needed for BCS to assess if the proposed mitigation measures will be effective in managing residual impacts

- The impact to Matters of National Environmental Significance (MNES) is unclear and further information is required for BCS to be able to complete a Bilateral Assessment in accordance with the SEARs.

BCS and NPWS recommendations are provided in **Attachment A**. Detailed comments are provided from BCS in **Attachment B** and from NPWS in **Attachment C**.

The project has been determined as a controlled action under the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and impacts to EPBC Act-listed entities will be assessed under the Assessment Bilateral Policy. This response includes comments and recommendations related to the assessment of impacts to MNES to ensure that the assessment report that BCS prepares contains all relevant information. **Attachment D** details the information and data required for this assessment.

All plans required as a Condition of Approval that relate to flood risk management or biodiversity should be developed in consultation with BCS, so our issues are adequately addressed.

If you have any questions about this advice, please contact Simon Maffei, Senior Project Officer Planning, via planning.southwest@environment.nsw.gov.au or 02 6022 0646.

Yours sincerely



Adam Vey

3 September 2024

Director South West

Biodiversity, Conservation and Science Group

NSW Department of Climate Change, Energy, the Environment and Water

ATTACHMENT A – BCS and NPWS Assessment Summary for Junction Rivers Wind Farm Environmental Impact Statement (SSD-30448824)

ATTACHMENT B – BCS detailed advice for Junction Rivers Wind Farm EIS

ATTACHMENT C – NPWS advice for Junction Rivers Wind Farm EIS

ATTACHMENT D – BCS Bilateral Assessment information and data requirements

ATTACHMENT A BCS and NPWS Assessment Summary for Junction Rivers Wind Farm Environmental Impact Statement (SSD-30448824)

In preparing this advice BCS and NPWS have reviewed the following documents:

- Junction Rivers Wind Farm Environmental Impact Assessment prepared by Umwelt (Australia) Pty Ltd on behalf of Windlab, dated May 2024
- Junction Rivers Farm Biodiversity Development Assessment Report (BDAR) prepared by Biosis for Umwelt (Australia) Pty Ltd on behalf of Windlab Pty Ltd, dated 15 May 2024 as Appendix 11
- Junction Rivers Wind Project Flood Impact Risk Assessment prepared by WRM for Umwelt (Australia) Pty Ltd, dated 15 May 2024 as Appendix 16
- Junction Rivers Wind Farm EIS Traffic and Transport Assessment prepared by Access Traffic Consulting for Umwelt (Australia) Pty Ltd, dated 15 May 2024 as Appendix 14

Key Assessment Issues

The following issues and recommendation are to be resolved prior to determination, or unless otherwise specified.

Flood Risk Management

1. The proponent consult with the local Councils and the NSW SES on emergency management related flood impacts.
 - 1.1. Actively engage with the local Councils and the NSW SES on emergency management matters, and develop a site-specific flood emergency response plan that includes actions the Councils and NSW SES support.
2. Some site access points are incompatible with use as flood emergency evacuation egress routes.
 - 2.1. Identify more appropriate locations for flood emergency egress for those site access points that are impacted by high flood risks in consultation with local Councils and the NSW SES.
3. Additional detail is required on the impact of the proposed development on flood behaviour, as well as the impact and risks of flooding on the development.
 - 3.1. Ensure future hydraulic models include the detailed designs associated with proposed project infrastructure to adequately demonstrate the impact of the project on flood behaviour and the impact and risks of flooding on the development.
4. The location of some sensitive infrastructure is incompatible with the high flood hazard present.
 - 4.1. Relocate sensitive infrastructure currently located in high flood hazard locations to more appropriate locations in the detailed design phase.

Biodiversity

Bird and Bat Utilisation Survey (BBUS) effort is very low and provides an unreliable basis for the Bird and Bat Adaptive Management Plan (BBAMP). The BBAMP also lacks commitment and detail to be effective.

- 5.1. Complete another 18 months of bat utilisation surveys including at height data as part of the BBUS program.
- 5.2. Include the full season of bat utilisation survey results in a revised BBAMP.
- 5.3. Assess raptor nests and breeding within the site and include the results in the collision risk assessment in a revised BBAMP

- 6.1. Revise the draft BBAMP in consultation with BCS, and ensure outcomes based on the results of the BBUS data are fully justified with supporting information and literature.
- 6.2. Revise the turbine risk ratings incorporating flight path mapping data and completed BBUS data.
- 6.3. Review the monitoring triggers for turbine collisions.

Some candidate species have been excluded without justification in the BDAR and targeted survey methods and preparation of species polygons have been incorrectly applied, which will affect the credit calculation.

- 7.1. Review Table 20 of the BDAR and only include grid-based surveys for those species with an area of associated PCTs in the development corridor of >50 hectares.
- 7.2. Complete additional surveys using parallel traverses for any candidate flora species where the sum of the associated PCTs is less than 50 hectares.
- 7.3. Review and revise candidate flora species polygons if required.
- 7.4. Identify and justify any vegetation zones where surveys were not completed due to perceived poor condition.
- 8.1. Provide additional information to confirm threatened species surveys were conducted in accordance with relevant guidelines and TBDC. If additional surveys cannot be done, presence must be assumed or an expert report provided.
- 8.2. Conduct targeted surveys for breeding candidate threatened raptors or assume presence in all associated habitat.
- 9.1. Provide additional justification for the exclusion of candidate flora and fauna species consistent with section 5.2 of the BAM.
- 9.2. Where species cannot be excluded, complete targeted surveys in accordance with section 5.3 of the BAM and supporting guidelines.
- 10.1. Update assumed presence species polygons to be consistent with section 5.2.5 (4) of the BAM.

The BDAR requires additional information to demonstrate that impacts have been avoided and minimised

- 11.1. Commit to using avoidance technology such as ultrasonic noise and radar to minimise impacts on birds and bats.
- 11.2. Justify the use of a 400-metre buffer from flooded lakes and wetlands as an avoidance method.
- 11.3. Review turbine risk ratings taking into consideration the mapped flight paths and BBUS. This data should be used to further inform avoidance measures.

The assessment of native vegetation cover and occurrence of Threatened Ecological Communities (TECs) requires revision to ensure all threatened entities and habitats have been identified.

- 12.1. Provide evidence to support exclusion of PCT 170 in the development corridor from the Plains Mallee Box Woodland TEC. This must include assessment against the EPBC Act approved conservation advice.
- 13.1. Review native vegetation cover in the assessment area to include all woody and non-woody native vegetation (including planted native vegetation).
- 13.2. Once complete, review the native vegetation percent cover and if required update the BAM-C and the BDAR, and address any changes to predicted and candidate species if triggered by a higher percent cover category.

Some impacts to biodiversity may be missing from the impact identification and associated spatial data.

- 14.1. Identify asset protection measures for the proposal and revise the assessment to include any associated impact to native vegetation and threatened species habitats.
- 14.2. Update Table 47 to include the change in vegetation integrity score due to the proposal.
- 14.3. Revise Section 8.1.1, Table 45 and Table 50 to consistently and clearly report the number of hollow-bearing trees to be impacted by the proposal.
- 15.1. Amend Section 8.2 and Table 51 of the BDAR to provide evidence-based justification for impact prediction about turbine noise and the risk of starvation, exposure and loss of shade or shelter on threatened fauna.
- 15.2. Revise Table 51 to include any asset protection (fire mitigation) requirements or reference to where such measures are detailed in the EIS. Revise the assessment of changed fire regimes if there is no stated commitment in the EIS to fire mitigation measures.

Mitigation measures provide insufficient detail to demonstrate that impacts will be successfully managed

- 16.1. Update Section 9 of the BDAR (including Table 56) to detail auditable mitigation and management measures that follow the SMART principles.
- 16.2. Include specific measures for minimise inadvertent clearing of non-woody components of TECs, native vegetation communities, and protecting native vegetation in adjacent TSRs from sediment-laden runoff during construction.
- 17.1. Provide further evidence for indirect impact risk ratings in Table 51 based on known effective mitigation measures.

BOAMS and BAM administration issues to be addressed.

- 18.1. Add a new child case within the parent case in BOAMs for stage 2 of the development.
- 18.2. Add a new child case within the parent case to split the scattered trees by stage.
- 18.3. Revise Table 73 and 74 to include the scattered tree impact summary for Stage 1 and Stage 2).
- 19.1. Revise Table 62 to accurately report the Pink Cockatoo credit liability for the 'PCT170 Moderate' vegetation zone.
- 20.1. Provide verification of threatened flora from a herbarium.

Matters of National Environmental Significance

- 21.1. Amend Table 65 to match the text in section 12.1.1. Amend Table 67 of the BDAR to include further justification to support excluding MNES species from further assessment.
- 21.2. Revise the BDAR to specifically address prescribed impacts to MNES.
- 21.3. Amend section 12 of the BDAR and specifically address each of the bilateral assessment requirements as detailed in Attachment C to this response.

National Parks and Wildlife Services

1. Land reserved under the National Parks and Wildlife Act 1974

- 1.1. document the distance between the Yanga SCA/NP boundary and the nearest proposed WTG, stating distance and depicting the applied buffer zone as part of the

EIS. Provide a stated commitment to retain the buffer during the final stages of the JRWFP design and WTG micro-siting.

- 1.2. confirm the JRWFP Stage 1 connection to the Transgrid 220 kV transmission line. Identify if any upgrades to the existing transmission line, its easement, or telecommunication systems is needed. Demonstrate the existing line is fit for purpose and can accommodate the proposed JRWFP with no impact to Yanga SCA. Any upgrades likely to affect Yanga SCA are to be included as part of this SSD and will require landowners' consent from the NSW Minister for the Environment administering the NPW Act.
- 1.3. confirm arrangements for the Stage 2 connection to the Transgrid EnergyConnect Project. Consider the scenario if this connection becomes unavailable, provide a resolution. If unavailable will connection to the existing 220Kv transmission line be available or will a new transmission line be needed to accommodate LRWFP Stage 2. Will that scenario affect Yanga SCA.

2. Aviation

- 2.1. un-certified aerodromes on NPWS estate or those used by the agency including a Helipad at Yanga Homestead 34° 42.91' S and 143° 36.576' E which is within 30 kilometres of the nearest WTG. NPWS also advises that temporary aircraft landing facilities for emergency purposes can occur anywhere on NPWS estate during a state of emergency, or during elevated risk land management operations. What restrictions on aircraft use will need to apply based on the operation of JRWFP, and how will this directly affect NPWS.
- 2.2. safety risk assessments consider NPWS emergency and firefighting aerial operations (as both low flight and low visibility operations) specific to the shared interface with Yanga SCA. Ensuring the maintenance of acceptable levels of safety are delivered in this locality, clear mitigation is articulated and will translate into a relevant JRWFP operational plan.

3. Biodiversity

- 3.1. values of the Yanga Group are considered in the overall impact assessment, inclusive of their wetland and migratory bird habitat, local and landscape level connectivity as a significant part of the Lowbidgee Floodplain. Effects of the JRWFP on threatened woodland, migratory and waterbirds, resources use and in sustaining breeding colonies needs to be adequately considered.
- 3.2. consultation with NPWS in the preparation and delivery of the Bird and Bat Adaptive Management Plan, and inclusion of the NPWS in ongoing monitoring outcomes and statutory reporting on JRWFP operation.

4. Bushfire

- 4.1. In preparing the Bush Fire Emergency Management Plan address the interconnected interface with the JRWFP Subject Site with Yanga SCA in consultation with NPWS. Notification is to be directed to NPWS Lower Darling Area office via npws.lowerdarling@environment.nsw.gov.au or (02) 03 5021 8900, any emergency notification to the West Branch Duty Officer via 02 82751740 or NPWS Statewide Duty Officer 02 9895 6444. The plan should allow for safety provisions around aerial firefighting response, ground access to and via JRWFP to the Yanga SCA interface and retention of the fire trail network to improve bushfire response. In preparing the plan consider:

5. Heritage

- 5.1. Yanga Pastoral Station Complex (DCCEEW HHIMS 10607) full curtilage extent is recognised and shown on a figure compared to the proposed JRWFP and its WTG

placement. Refer to the *Tonkin Zulaikha Greer Architects, Yanga Conservation Management Plan*, prepared for Office of Environment and Heritage, 2013 (Yanga CMP) for context.

- 5.2. access to Historic Heritage Information Management System Sites data set [Historic Heritage Information Management System \(HHIMS\) Sites | Dataset | SEED \(nsw.gov.au\)](#) is advised when considering the full list of section 170 *Heritage Act 1977* items. Ensure impact assessment considers and reflects the level of significance attributed to Yanga Pastoral Station Complex as per the Yanga CMP. Confirm that impacts remain limited to 'minor adverse' based on the full extent of the curtilage. Contact with the NPWS Historic Heritage team is advised historicheritage.Information@environment.nsw.gov.au.

6. Hydrology

- 6.1. Revising the EIS, and WRIA to identify the available, and secured sources of potable and raw water needed to deliver on the proposed JRWFP.

Conditioning the post approval process to:

- 6.2. effectively managing erosion risk and threats to sensitive environments during construction with the preparation of specific Erosion and Sediment Control Plans (ESCP). The plans are to apply *Managing Urban Stormwater soils and construction* Volume 1 4th ed (Landcom, 2004) and Volume 2A (DECC, 2008) (the 'Blue Book') and consider the Publications - International Erosion Control Association (austieca.com.au) Best Practice Guides.
- 6.3. ensure in the preparation of the Construction Environmental Management Plan adequately applies functional controls to
 - a) protect riparian zones and site hydrology, maximising vegetation retention and minimise disturbance within or near waterways supporting natural functions including connectivity. Consider restoration of sensitive areas.
 - b) monitor water quality in downstream locations during construction. Monitoring is to reduce the risk waterways and the threat to Yanga NP providing early warning of increased sediment mobilisation or movement of contaminants during construction, and post construction until the Subject Site is stabilised.

7. Landscape and visual amenity

- 7.1. ensure alteration of scenic values and view lines from the Yanga Lake Viewing Platform at Yanga Homestead are re-assessed post installation of the WTGs as part of Stage 1 (installation of WTG 18 to 30), and at Stage 2 (installation of WTG 1 to 17) within the northern part of the Subject Site above Balranald-Moulamein Road. Measures to further reduce impacts are to be considered and discussed in consultation with NPWS and implemented as needed.
- 7.2. *National Light Pollution Guidelines for Wildlife* (DCCEEW, 2023) measures are applied to achieve improved lighting design which considers the natural (biodiversity) values attributed to Yanga SCA and Yanga NP, reducing lighting pollution, or light spill effects.

8. Noise and vibration

- 8.1. ensure the blasting plan for the Stage 1 works is prepared in consultation with NPWS. Ensuring impacts to our estate, assets (road and trail network e.g. bridges and other assets) and the safety of our staff is managed accordingly. Adherence to the 'Austalian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration' (ANZEC, 1990) is recommended.

- 8.2. ensure the Construction Noise and Vibration Management Plan (CNVMP) sets up a baseline noise limit criterion of 35dB(A) for Yanga SCA and Yanga NP as sensitive receivers. If the noise limits affecting NPWS estate exceed 40dB(A) during blasting or for extended periods of time NPWS requests additional assessment on sensitive biodiversity values attributed to the Yanga Group. Noise monitoring on Yanga SCAs interface during construction and initial operation of Stage 1 of the JRWFP is requested to ensure compliance.

9. Telecommunications

- 9.1. Revising the EIS and the TIA to ensure use of the mobile communication systems, as deployment of temporary towers (or Cells on Wheels) for periodic and emergency operations to ensure reliable radio coverage is considered. This includes the use of COWs for NPWS high risk program delivery, ensuring it is considered, assessed and residual risk articulated with respect to the Yanga Group and the NSW Telecommunication Authority as the radio network operator.
- 9.2. Conditioning the post approval process to ensure a future operational plans for JRWFP ensure VHF simplex channels, future UHF PSN Trunking services and mobile systems remain operational to their current level. NPWS simply requests a set pathway to report and seek resolution on any telecommunications link or system performance issues associated with the JRWFP into the future via inclusion of this into their operational planning.

ATTACHMENT B BCS detailed advice for Junction Rivers Wind Farm EIS

Flood Risk Management

BCS has reviewed the Impact Assessment component in Section 6.8 of the EIS and the Junction Rivers Wind Project Flood Impact Risk Assessment in Appendix 16.

The EIS does address the Secretary's requirements for flooding, contingent on the applicant addressing the issues below:

1. The proponent consult with the local Councils and the NSW SES on emergency management related flood impacts.

The Flood Risk Impact Assessment in Appendix 16 (section 6.3) suggests that the flood risks at the site will be managed through the development of an Emergency Response Plan (ERP) developed pre-construction. However, there seems to be no evidence of consultation with the local Councils and the NSW State Emergency Services (SES) regarding the emergency management impacts as required in the BCS input to the SEARs. BCS recommends that the proponent actively consult with local Councils and NSW SES to ensure that the emergency management matters are both discussed and supported. This consultation will be necessary to inform the development of a site-specific flood ERP during detailed design.

Recommendation:

- 1.1. Actively engage with the local Councils and the NSW SES on emergency management matters, and develop a site-specific flood emergency response plan that includes actions the Councils and NSW SES support.

2. Some site access points are incompatible with use as flood emergency evacuation egress routes.

The proposed western and central site access points are located in high flood risk locations as shown in the design flood mapping in the Flood Risk Impact Assessment. BCS considers that these locations are incompatible with use as key evacuation egress routes in major flood events.

BCS recommends that more appropriate locations for flood emergency egress needs to be determined in the detailed design stage in consultation with local Councils and the NSW SES. The flood emergency evacuation egress locations and evacuation procedures need to be detailed in the proposed ERP along with the records of consultation with local Councils and the NSW SES.

Recommendation:

- 2.1. Identify more appropriate locations for flood emergency egress for those site access points that are impacted by high flood risks in consultation with local Councils and the NSW SES.

3. Additional detail is required on the impact of the proposed development on flood behaviour, as well as the impact and risks of flooding on the development.

The Flood Risk Impact Assessment provides a low-resolution overview of the project. The mapping provided lacks sufficient detail of the proposed project infrastructure, including ancillary works, in the landscape. It is therefore difficult to determine the impact of the entire project on flood behaviour and the impact and risks of flooding on the individual elements of the development. This is particularly important for those areas where sensitive and hazardous infrastructure is proposed such as the Battery Energy Storage Systems (BESS) and substations.

BCS recommends that future hydraulic modelling incorporates the detailed designs of the project infrastructure, which will include all aspects of development, at a higher resolution to adequately demonstrate the impact of the project on flood behaviour and the impact and risks of flooding on the development.

Recommendation:

- 3.1. Ensure future hydraulic models include the detailed designs associated with proposed project infrastructure to adequately demonstrate the impact of the project on flood behaviour and the impact and risks of flooding on the development.

4. The location of some sensitive infrastructure is incompatible with the high flood hazard present.

The Flood Risk Impact Assessment shows that the combined BESS and substation located in a large landscape depression adjacent to the Balranald Road is flooded to a depth of up to 2.5 metres in a 1% Annual Exceedance Probability (AEP) event (Figure A.3) which is defined as high hazard (Figure A.15). Even in the 5% AEP event the depth of flooding in this location is shown as being up to 2.0 metres (Figure A.2) and remains high hazard. The flood risks at this location warrant a specific flood risk assessment which has not been completed.

BCS accepts that a key flood mitigation measure in the Flood Risk Impact Assessment is to elevate sensitive infrastructure a minimum of 300 mm above the 1% AEP flood level (Table 6.1). However, in this case a pad raised to this level within this high hazard flood storage area would present unacceptable flood risks.

BCS considers that this high flood hazard location is not compatible with sensitive infrastructure and recommends moving the BESS and substation infrastructure to an adjacent more appropriate site in the detailed design phase.

Recommendation:

- 4.1. Relocate sensitive infrastructure currently located in high flood hazard locations to more appropriate locations in the detailed design phase.

Biodiversity

The Biodiversity Development Assessment Report (BDAR) at Appendix 11 does not meet the Secretary's requirements for biodiversity.

Specific advice on the BDAR and related sections in the EIS are:

[Bird and Bat Utilisation Survey \(BBUS\) effort is very low and provides an unreliable basis for the Bird and Bat Adaptive Management Plan \(BBAMP\). The BBAMP also lacks commitment and detail to be effective.](#)

5. BBUS effort is insufficient and cannot be used to reliably inform the BBAMP without additional survey effort.

Only two seasons (spring and summer 2021) of bat survey have been conducted at six locations as part of the bat utilisation surveys. This is an inadequate number of surveys on which to base turbine risk assessments and the BBAMP. Bat utilisation surveys must include a full two years (8 seasons) of surveys and include at height data.

The location of large stick nests should be used to inform the risk ratings of turbines. While eight seasons of bird survey have been conducted a part of the BBUS program, there has been no detail provided on the location and prevalence of raptor nests on site. This also means that there have been no targeted surveys for breeding dual credit raptor species (see Issue 8).

Recommendations:

- 5.1. Complete another 18 months of bat utilisation surveys including at height data as part of the BBUS program.
- 5.2. Include the full season of bat utilisation survey results in a revised BBAMP.

- 5.3. Assess raptor nests and breeding within the site and include the results in the collision risk assessment in a revised BBAMP

6. Measures to mitigate uncertain impacts to birds and bats in the BBAMP framework lack the necessary commitment and detail to be effective.

Section 8.5 of the BAM and section 4.4.7 of the Biodiversity Assessment Method 2020 Operational Manual – Stage 2 (BAM Ops Stage 2) outlines the requirements for an adaptive management plan. Section 8.5 of the BAM states that an adaptive management plan must identify and describe:

- a. the threatened species and/or TECs likely to be impacted
- b. a monitoring program of sufficient scope and duration to provide data that can inform when direct and indirect impacts on biodiversity occur
- c. thresholds or triggers associated with the monitoring program that identify when a prescribed impact has occurred or is likely to occur
- d. suite of potential adaptive management actions to be implemented during the construction or operational phases.

The BBAMP framework provided in the BDAR is based on incomplete BBUS (see Issue 5). Without complete BBUS it is not possible to adequately assess turbine collision risks, practice adequate avoidance or develop specific mitigation measures. It is not clear that the turbine risk ratings have considered the flight path mapping of at-risk species, and as explained above they do not consider raptor nests. For example, the placement of turbines around Lake Condoulpe appears to contradict the provision of a turbine free band to the southwest of Lake Condoulpe. Lake Condoulpe and the associated Condoulpe Creek have been discussed in the BDAR as an important flyway for waterbirds. There is no evidence that waterbirds flying through the region principally use this flyway. Given the importance of wetlands in the Nimmie Caira, Yanga National Park and the greater Lowbidgee area, to the north, and the Edward River, Wakool River and Murray River, to the south, the proposed development is likely on a broad potential flightpath for waterbirds.

Section 9.1.2 of the BDAR does not identify and describe the specific threatened species likely to be impacted, nor does it include a monitoring program of sufficient scope and duration. Appendix 9 (Draft BBAMP) needs to be collated and combined into a standalone document that is easily understood and will be able to be practically applied and amended. The lists of species at risk is not consistent between sections of the BDAR. The BDAR needs to be amended to identify the specific species likely to be impacted and include a monitoring program designed for the species likely to be impacted in accordance with the BAM. The likelihood of collision risks is unrealistically low for most species and needs to be reconsidered. Black Falcon needs to be reconsidered as a species likely to be impacted. Little Eagle and Australian Hobby need to be included as potential collision risks despite having been probably overlooked during BBUS.

Tables 57, 58 and 59 of the BDAR include the proposed trigger and associated mitigation measures, however does not include justification for the selection of triggers. The proposed triggers are unlikely to be met even in high collision situations. The mitigation measures proposed (Table 60) once triggers are reached are unclear and are non-binding. As outlined in section 4.4.7 of the BAM Operational Manual Stage 2, triggers must be justified with reference to published literature and data and employ SMART principles. Additionally, both preventative and mitigating triggers/thresholds should be used and clearly identified in the adaptive management plan.

Recommendations:

- 6.1. Revise the draft BBAMP in consultation with BCS, and ensure outcomes based on the results of the BBUS data are fully justified with supporting information and literature.
- 6.2. Revise the turbine risk ratings incorporating flight path mapping data and completed BBUS data.

6.3. Review the monitoring triggers for turbine collisions.

Some candidate species have been excluded without justification in the BDAR and targeted survey methods and preparation of species polygons have been incorrectly applied, which will affect the credit calculation.

7. The large area method has been incorrectly applied to threatened flora surveys.

Section 4.3.1 of the BDAR outlines threatened flora survey effort including a mix of both grid based systematic surveys in 40 metre x 40 metre points and parallel traverses. As outlined in s4.4 of the *Surveying threatened plants. NSW guide for the Biodiversity Assessment Method*, the large area survey method can be applied to 'large areas of suitable habitat greater than 50 hectares'.

Of the 12 candidate flora species, only two species (*Lepidium monoplacoides* and *Brachyscome papillosa*) have an area of associated PCTs greater than 50 hectares in the development corridor. The remaining ten species must use the standard parallel traverse in accordance with sections 4.1 and 4.2 of the *Surveying threatened plants: NSW guide for the Biodiversity Assessment Method* guide.

Calculation of survey effort for each species should be within the development corridor and include length of transects and areas where appropriate. Results of surveys completed outside the development corridor should be used to inform assessment of species habitat and avoidance but not be included in calculation of effort in the development corridor.

The BDAR says that "...areas excluded from survey included areas the understorey was substantially depauperate due to being subject to ongoing grazing, areas with significantly high weed species ingress,...and other associated vectors substantially impacting upon the soil profile". The BDAR does not identify these locations, nor does it provide supporting information such as VI scores to support the exclusion of these areas from survey effort.

Recommendations:

- 7.1. Review Table 20 of the BDAR and only include grid-based surveys for those species with an area of associated PCTs in the development corridor of >50 hectares.
- 7.2. Complete additional surveys using parallel traverses for any candidate flora species where the sum of the associated PCTs is less than 50 hectares.
- 7.3. Review and revise candidate flora species polygons if required.
- 7.4. Identify and justify any vegetation zones where surveys were not completed due to perceived poor condition.

8. Some targeted threatened fauna species surveys do not comply with the BAM.

Threatened species surveys must be conducted as per section 5.3 of the BAM, which requires surveys to comply with the Department's threatened species survey guides and the Threatened Biodiversity Data Collection (TBDC). The BDAR must provide sufficient evidence to demonstrate compliance with the relevant guideline and the TBDC, including GPS coordinates and tracks, dates, timing, person hours, weather conditions and photographs for the following guilds:

- Raptors
- Forest Owls
- Microbats

Breeding surveys for dual credit raptor species were not conducted. BBUS surveys do not provide adequate targeted survey for candidate species credit species.

Recommendations:

- 8.1. Provide additional information to confirm threatened species surveys were conducted in accordance with relevant guidelines and TBDC. If additional surveys cannot be done, presence must be assumed or an expert report provided.
- 8.2. Conduct targeted surveys for breeding candidate threatened raptors or assume presence in all associated habitat.

9. More detail is needed to justify exclusion of candidate species.

Appendix 2 of the BDAR assesses BAM candidate species. Ten candidate flora species and seven fauna species have been excluded. While the exclusion of some species based on geographic, or habitat constraints listed in the BAM-C is reasonable and in accordance with section 5.2 of the BAM, six flora species are currently excluded based on distance to nearest existing records and/or lack of suitable habitats. The lack of suitable habitats for each species within the subject land has not been described for each species in accordance with section 5.2.2 (2) of the BAM or justified with supporting literature being referenced. In addition, a paucity of regional records cannot be used as the only basis for exclusion of candidate species.

Recommendations:

- 9.1. Provide additional justification for the exclusion of candidate flora and fauna species consistent with section 5.2 of the BAM.
- 9.2. Where species cannot be excluded, complete targeted surveys in accordance with section 5.3 of the BAM and supporting guidelines.

10. Assumed presence species polygons are not consistent with section 5.2.5 of the BAM.

BCS agrees with the precautionary approach for assumed presence flora species polygons where surveys have not been completed in survey seasons. However, the development of the polygons is not consistent with section 5.2.5 (4) of the BAM. Where a species is assumed to be present on the subject land the assessor must use either an expert report to delineate the species polygon, or the species polygon must encompass the entire vegetation zone/s in which the candidate species is predicted to occur. *Solanum karsense*, *Brachyscome papillosa* and *Lepidium monoplacoides* assumed presence species polygons do not conform with this section of the BAM.

Recommendation:

- 10.1. Update assumed presence species polygons to be consistent with section 5.2.5 (4) of the BAM.

The BDAR requires additional information to demonstrate that impacts have been avoided and minimised

11. The BDAR needs to include more detail to demonstrate that biodiversity impacts have been avoided or minimised.

While BCS acknowledges the efforts made to avoid and minimise impacts, further avoidance measures are possible.

Table 45 lists the avoid and minimise actions, including technologies such as ultrasonic noise and radar technology that will be considered. However, there is no commitment to use the technology in the BBAMP.

Table 45 also outlines that a minimum 400 metre buffer will be maintained from flooded lake/wetland habitats, however no justification or literature has been provided to support that a 400 metre buffer will be adequate. Buffer distances from lakes and wetlands should be supported by waterbird flight literature and outcomes of the BBUS.

There also appears to be scope for greater avoidance of flight paths and the need to reassess risk ratings based on flight paths. In Figure 1, flyways are very close to several turbines, with one flight path appearing to weave between turbines 26 to 30. Also, turbines 15 and 75 are deemed low risk, yet a flyway passes through them.

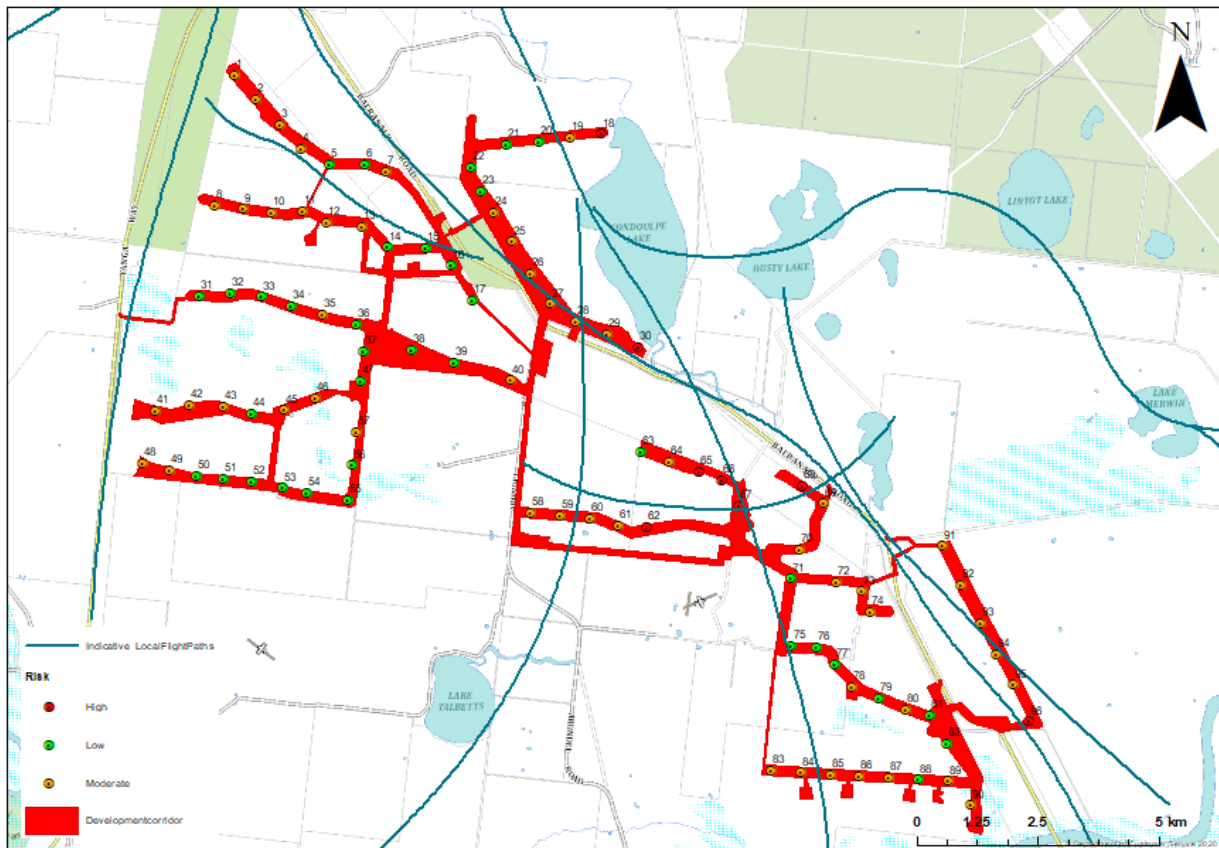


Figure 1: Flyway through turbines 26 to 30 and turbines 15 and 75 assessed as low risk but are in a flyway.

Recommendations:

- 11.1. Commit to using avoidance technology such as ultrasonic noise and radar to minimise impacts on birds and bats.
- 11.2. Justify the use of a 400-metre buffer from flooded lakes and wetlands as an avoidance method.
- 11.3. Review turbine risk ratings taking into consideration the mapped flight paths and BBUS. This data should be used to further inform avoidance measures.

The assessment of native vegetation cover and occurrence of Threatened Ecological Communities (TECs) requires revision to ensure all threatened entities and habitats have been identified.

12. Potential occurrence of EPBC TECs must be assessed against the listed conservation advice.

The PCT 170 justification in Table 10 of the BDAR mentions the association of this PCT with the EPBC-listed TEC of Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions. The TEC is then discounted as occurring. There is no further discussion of why this TEC does not occur in section 3.2.4 (threatened ecological communities) or section 12.1.2 of the BDAR.

Recommendation:

- 12.1. Provide evidence to support exclusion of PCT 170 in the development corridor from the Plains Mallee Box Woodland TEC. This must include assessment against the EPBC Act approved conservation advice.

13. Native vegetation cover in landscape assessment requires review to include all native vegetation.

Section 2.1.1 and Figure 5.1 of the BDAR identifies the native woody and non-woody vegetation in the assessment area for the proposed development. The full extent of native vegetation, which includes scattered trees and remnant native vegetation, has not been mapped (see example in Figure 2). In addition to derived, remnant and regrowth native vegetation, the native vegetation cover should also include planted native vegetation in accordance with section 3.2 of the BAM Operational Manual - Stage 1.

We note that the native vegetation extent is 29.43% which means it is in the lower (0-30%) category. The omission of some of the native vegetation extent from the assessment area may mean the assessment area should be >30% and be in the next category of >30% to 70% cover, which could trigger changes to the predicted and candidate species lists in the BAM-C. Accurate calculation of native vegetation cover is required to inform the habitat suitability assessment for predicted and candidate species in the BAM-C.

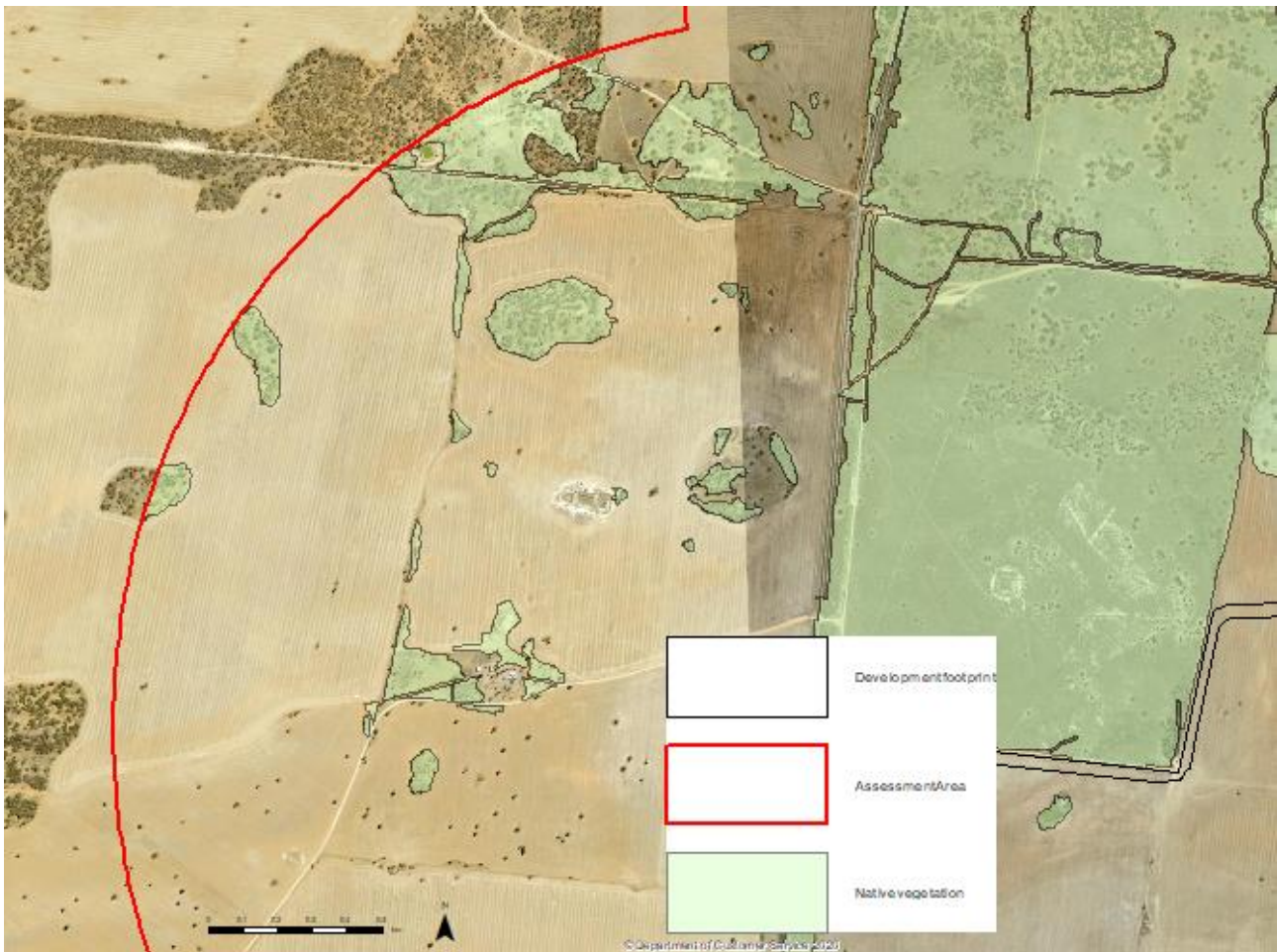


Figure 2: Example of areas of native vegetation in the assessment area that have not been included in the calculation of native vegetation in the assessment area.

Recommendations:

- 13.1. Review native vegetation cover in the assessment area to include all woody and non-woody native vegetation (including planted native vegetation).
- 13.2. Once complete, review the native vegetation percent cover and if required update the BAM-C and the BDAR, and address any changes to predicted and candidate species if triggered by a higher percent cover category.

Some impacts to biodiversity may be missing from the impact identification and associated spatial data.

14. The direct impact assessment should include asset protection commitments, identify the change in vegetation integrity, and consistently and clearly report the impact to hollow-bearing and scattered trees.

The details of any management activities that are likely to impact native vegetation or threatened species habitat should be included in the BDAR, including mitigation measures for other aspects of the proposal. For example, the assessment of indirect impacts in Table 51 identifies that fire control measures will reduce any impact of changed fire regimes (see issue 17). However, the BDAR does not include any details of typical fire mitigation measures such as clearing or mowing for asset protection zones that would be assessed as direct impacts.

The change in vegetation integrity due to direct impact should be clearly provided. The summary of direct impacts to native vegetation in Table 47 should include the change in vegetation integrity score for each vegetation zone. The Accredited Assessor should refer to the BDAR template for an example of how to present the data or include a reference if this information is elsewhere in the BDAR.

The number of impacted hollow-bearing trees needs to be consistently and clearly reported in Section 8.1.1. The evidence for avoiding hollow-bearing trees in Table 45 includes a statement that 'of the 36 hollow-bearing trees mapped by NGH Consulting only three occur within the development footprint'. This is inconsistent with Table 50 that states 'with only 17 trees within the final development footprint'.

The information about hollow-bearing trees in Table 45 (page 244) also needs to be simplified. Rather than separating the information by observer, we suggest providing the total number of hollow-bearing trees that will be removed, the total number within the assessment corridor, and the number of these assessed via 'scattered tree streamlined module'. The distinction between datasets could be identified in the spatial data attributes and in an appendix to the BDAR.

Recommendations:

- 14.1. Identify asset protection measures for the proposal and revise the assessment to include any associated impact to native vegetation and threatened species habitats.
- 14.2. Update Table 47 to include the change in vegetation integrity score due to the proposal.
- 14.3. Revise Section 8.1.1, Table 45 and Table 50 to consistently and clearly report the number of hollow-bearing trees to be impacted by the proposal.

15. The indirect impact assessment should include turbine noise and loss of fauna habitat.

Table 51 should provide consistent and justified advice about the likelihood of noise from turbines impacting threatened fauna breeding habitat and provide sufficient evidence to support a low likelihood of reduced viability of adjacent habitat due to noise, dust or light spill. The impacts resulting from turbine noise have been dismissed in Table 51 (page 298) as negligible. This conclusion is contradicted by the information presented for 'likelihood and consequences' of loss of specialist breeding habitat on page 299. For example, wind turbine noise has been found by Teff-

Seker et al. (2022)¹ to alter the natural acoustic environment by introducing airborne load broadband sound which is within the hearing range of a variety of fauna, including most bird species. It has been shown that noise pollution affects species demography and may promote habitat avoidance. Table 51 should consider noise impacts for the threatened species known to inhabit the subject land.

Table 51 (page 299) states that 'increased risk of starvation, exposure and loss of shade or shelter' is negligible due to the 'context of the subject land and broader locality'. The BDAR does not consider the impacts of proposed development in the locality or the land use that allows for removal of vegetation without approval. Further justification is required to support this statement. For example, how will the removal of vegetation for this proposal impact local fauna?

Recommendations:

- 15.1. Amend Section 8.2 and Table 51 of the BDAR to provide evidence-based justification for impact prediction about turbine noise and the risk of starvation, exposure and loss of shade or shelter on threatened fauna.
- 15.2. Revise Table 51 to include any asset protection (fire mitigation) requirements or reference to where such measures are detailed in the EIS. Revise the assessment of changed fire regimes if there is no stated commitment in the EIS to fire mitigation measures.

Mitigation measures provide insufficient detail to demonstrate that impacts will be successfully managed.

16. Mitigation measures should be detailed in the BDAR to demonstrate effective management of impacts and to give confidence that the offset liability is adequate.

BAM section 8.4 requires that all measures to mitigate and manage impacts are documented in detail in the BDAR, and that all measures follow the SMART principles (specific, measurable, achievable, relevant, and time-bound). Table 56 currently lacks specific detail for some proposed mitigation and management measures and does not assess the risk and consequence of any residual impacts. It also relies on the Construction Environmental Management Plan (CEMP) and sub-plans including the Biodiversity Management Plan (BMP) to specify adaptive management actions.

Detailing measures according to BAM s.8.4 should not be deferred to post-approval management plans (such as the BMP or CEMP) that are yet to be prepared. Table 51 relies on successful mitigation measures for the low and negligible likelihood of indirect impacts. That means Table 56 needs to demonstrate how each proposed measure will be effective and provide evidence of successful implementation in similar environments. Along with each measure, Table 56 should also evaluate the risk of failure, and the risk and consequence of any residual impacts as per BAM s.8.4(2)(b) and (c).

For example, probable specifications for ancillary infrastructure should be provided so the impacts can be identified and managed. Project fencing (row 2, page 347) is proposed to be designed not to be a barrier to fauna movement, however there are no details about the fencing options, their feasibility and relative success, or the fauna to be targeted.

Specific locations need to be provided for protection measures, such as dot point 2 in the first row requiring installation of 'no-go zones'. The areas to be included (all the avoided entities and their

¹ Teff-Seker Y, Berger-Tal O, Lehnardt Y & Teschner N (2022) Noise pollution from wind turbines and its effects on wildlife: A cross-national analysis of current policies and planning regulations, *Renewable and Sustainable Energy Reviews* 168: October 2022, 112801. <https://doi.org/10.1016/j.rser.2022.112801>

habitat) should be specified and mapped to reduce mis-interpretation during preparation of the CEMP.

The proposed measures have a focus on protecting and retaining trees. The CEMP should include indication information about the value of non-woody and ground cover native vegetation, particularly as one of the recorded species is a threatened grass (*Austrostipa metatoris*).

The mitigation of indirect impacts on native vegetation and habitat required by BAM section 8.4.1(3.) also largely relies on measures that are yet to be developed, such as EMP erosion and sedimentation controls and measures in the BMP to prevent indirect impacts on the adjacent Travelling Stock Reserves (TSRs).

Measures must be given unique identifiers for auditing and to ensure each measure is tracked through the consent and post-approval processes. This also applies to measures in the EIS.

Recommendations:

- 16.1. Update Section 9 of the BDAR (including Table 56) to detail auditable mitigation and management measures that follow the SMART principles.
- 16.2. Include specific measures for minimise inadvertent clearing of non-woody components of TECs, native vegetation communities, and protecting native vegetation in adjacent TSRs from sediment-laden runoff during construction.

17. The indirect impact assessment requires review and the BDAR must detail the measures to mitigate indirect impacts.

Table 51 of the BDAR shows the indirect impacts have largely been assessed as low and negligible risk based on assumptions that measures in the BMP and CEMP will be effective. However, the BMP and CEMP have not yet been developed. More detail is required for BCS to have confidence that the consequences presented in Table 51 would be realised.

For example, Table 51 states that it is unlikely there will be increases in pathogens and weeds transported and the residual risk will be managed by biosecurity measures outlined in a CEMP or similar. However, Tables 16 and 19 in the Traffic and Transport Assessment at Appendix 14 summarises the total project material/equipment delivery movements for Stage 1 and Stage 2 which shows a large number of vehicle movements will occur daily. The high number of daily vehicle movements suggests that the likelihood of transporting pathogens or weeds is very likely. The BDAR should document the proposed biosecurity methods to manage this risk.

Table 51 (row 2, page 302) also states that indirect impacts from changed fire regimes will not occur due to fire mitigation systems. Fire mitigation requirements have not been identified or potential impacts assessed in the BDAR and there is no reference to where in the EIS they have been specified, so fuel reduction measures cannot be relied on to limit this impact (refer to issue **Error! Reference source not found.**).

Recommendations:

- 17.1. Provide further evidence for indirect impact risk ratings in Table 51 based on known effective mitigation measures.

BOAMS and BAM administration issues to be addressed.

18. The two stages proposed for credit retirement should be allocated to two separate child cases for vegetation zones and scattered trees.

The BDAR includes Stage 1 and Stage 2 to allow for credits to be retired in stages. The credit reports in section 11 of the BDAR are for the whole development and scattered trees.

While revision 11 of case 00034462/BAAS18138/22/00034463 is used for the credit report, there are Stage 1 and Stage 2 revisions in the same child case that match staged ecosystem and

species credits in Tables 73 and 74 of the BDAR. It is not possible to create two revisions in a child case to allow a staged development approach. When multiple assessment revisions have been finalised, only the credit recordings from the most recently finalised revision is recorded in BOAMS, and only the latest finalised revision is sent to the consent authority. To ensure credits for both stages are recorded in the parent case in BOAMS, two separate child cases within the one parent case must be prepared.

Similarly, the credit requirements for scattered trees have not been presented by stages and are not included in the offset staging plan in section 13.5 of the BDAR.

Recommendations:

- 18.1. Add a new child case within the parent case in BOAMs for stage 2 of the development.
- 18.2. Add a new child case within the parent case to split the scattered trees by stage.
- 18.3. Revise Table 73 and 74 to include the scattered tree impact summary for Stage 1 and Stage 2).

19. The Pink Cockatoo credit liability in Table 62 is incorrectly reported.

There is an error in the Table 62 of the BDAR Pink Cockatoo species credits required for the 'PCT170 Moderate' vegetation zone. Based on the BAM-C credit summary and spatial data, the quantum should be 59.5 hectares and 127 credits.

Recommendation:

- 19.1. Revise Table 62 to accurately report the Pink Cockatoo credit liability for the 'PCT170 Moderate' vegetation zone.

20. Any threatened flora records should be verified by a herbarium

BCS note the new location of *Austrostipa metatoris*. Any threatened flora records should be verified by a recognised herbarium. If this has already been completed, reference to the verification outcome and evidence should be provided in the BDAR.

Recommendation:

- 20.1. Provide verification of threatened flora from a herbarium.

[Matters of National Environmental Significance](#)

21. A complete MNES assessment should be provided to address the Assessment Bilateral.

The biodiversity impact assessment and offsetting is being completed under the EPBC Act Assessment Bilateral Policy. As this is a controlled action bilateral assessment project, BCS requires additional information to confirm that the proponent has addressed all relevant MNES. The NSW Government issued Supplementary SEARs for the project which outline the species and communities requiring assessment, which have been replicated in the BDAR section 12.1 and Appendix 5.

The BDAR currently does not demonstrate that Australian Government assessment requirements for impacts to all MNES have been adequately addressed. The required MNES information under the Australian Government DCCEEW Bilateral Assessment (provided in Attachment D to this response) is not complete.

The impact to MNES entities is unclear. Some species have not been included on the grounds of vagrancy but the reasons for this are not clearly justified. For example, the Blue-winged Parrot is a regular migrant to southwestern NSW and is known to fly within the RSA height, but it was not included in the assessment based on the species being considered not likely to occur. This species has been recorded recently at other wind farm sites in the SW REZ. Other migratory species that require further consideration include (but are not limited to) Glossy Ibis and Curlew Sandpiper.

While Table 67 identifies the MNES where direct and indirect impacts are likely, there is no assessment of prescribed impacts to MNES. Some species are identified as possible collision risk species, but no other assessment is provided of prescribed impacts to MNES. Section 5.2.3 of the BDAR references Commonwealth guidelines and MNES species regarding turbine strike risks and flight paths. However, the BDAR does not adequately address prescribed impacts such as human-made structures, connectivity, waterbodies, and vehicle strike for MNES species. The BDAR should be amended to specifically address prescribed impacts to MNES.

Some MNES fauna species have been excluded 'as the species is not likely to be present', however minimal detail is provided to support this statement (Table 67 of the BDAR). Further information should be provided to support the impact assessment to MNES species, including full references to any peer-reviewed literature relied upon and correspondence with any species experts engaged.

Section 12 of the BDAR does not identify those ecosystem credit species that are also EPBC listed species that will have associated PCTs impacted and for which a credit requirement is generated.

Recommendations:

- 21.1. Amend Table 65 to match the text in section 12.1.1. Amend Table 67 of the BDAR to include further justification to support excluding MNES species from further assessment.
- 21.2. Revise the BDAR to specifically address prescribed impacts to MNES.
- 21.3. Amend section 12 of the BDAR and specifically address each of the bilateral assessment requirements as detailed in Attachment C to this response.

ATTACHMENT C NPWS detailed advice for Junction Rivers Wind Farm EIS

National Parks and Wildlife Services

The NSW National Parks and Wildlife Service (NPWS) retains a statutory obligation to ensure development adjoining lands reserved and acquired under the *National Parks and Wildlife Act 1974* (NPW Act) are not adversely affected.

NPWS recognises that the Junction Rivers Wind Project State Significant Development (SSD) – 30448824) as proposed Junction Rivers Pty Ltd a subsidiary of Windlab Developments Pty Ltd (Windlab) adjoins Yanga State Conservation Area (Yanga SCA) to the northeast. The proposal is also near Yanga National Park (Yanga NP) and Yanga Nature Reserve (Yanga NR) to the north (referred to as the Yanga Group) and the Murray Valley Regional Park (Murray Valley RP) to the south and southwest.

On review of the Junction Rivers Wind Project, Environmental Impact Statement prepared by Umwelt (Australia) Pty Ltd for Junction Rivers Pty Ltd, dated May 2024 (EIS), NPWS raises the following matters with respect to the agency's statutory functions and obligations under the NPW Act.

1. Land reserved under the *National Parks and Wildlife Act 1974*

On review of the EIS it is noted that layout design of the Junction Rivers Wind Farm Project (JRWFP) incorporates an applied buffer zone to Yanga SCA, separating the SCA from the nearest wind turbine generator (WTG). NPWS notes that WTG placement is shown not to extent north beyond the existing Transgrid transmission line, or east of Condoulpe Creek, which aids in reducing impacts to the Yanga Group. NPWS appreciates this design consideration, asking only that the spatial buffers are recognised, and future application documented as part of the EIS.

NPWS acknowledges that the proposed JRWFP Stage 1 will connect to the existing Transgrid 220 kV transmission line which transverses the northern part of the Subject Site. JRWFP Stage 2 as proposed will likely connect to the Transgrid's future EnergyConnect Project transmission line, notably the Stage 2 connection has yet to be confirmed.

Recommendations:

Revising the EIS, to:

- 1.1. document the distance between the Yanga SCA/NP boundary and the nearest proposed WTG, stating distance and depicting the applied buffer zone as part of the EIS. Provide a stated commitment to retain the buffer during the final stages of the JRWFP design and WTG micro-siting.
- 1.2. confirm the JRWFP Stage 1 connection to the Transgrid 220 kV transmission line. Identify if any upgrades to the existing transmission line, its easement, or telecommunication systems is needed. Demonstrate the existing line is fit for purpose and can accommodate the proposed JRWFP with no impact to Yanga SCA. Any upgrades likely to affect Yanga SCA are to be included as part of this SSD and will require landowners' consent from the NSW Minister for the Environment administering the NPW Act.
- 1.3. confirm arrangements for the Stage 2 connection to the Transgrid EnergyConnect Project. Consider the scenario if this connection becomes unavailable, provide a resolution. If unavailable will connection to the existing 220Kv transmission line be available or will a new transmission line be needed to accommodate LRWFP Stage 2. Will that scenario affect Yanga SCA.

2. Aviation

On review of the EIS and the Aviation Impact Assessment, Junction Rivers Wind Farm prepared by Aviation Projects Pty Ltd, dated 13 May 2024 (AIA) as Appendix 15.

The AIA recognises NPWS as a land manager, which undertakes aerial operations. However, the AIA lacks detail around the use of both rotary and fixed-wing aircraft for the purpose of park management (covering aerial pest management, wildlife monitoring, pest animal control) or emergency operations (aerial firefighting and medical evacuation). The AIA only states that low level flight operations within 2000 metres of a WTG may experience downwind turbulence, but the assessment but does not consider implications in the management of land adjoining, and the impact of no fly zones in the vicinity of WTGs. The SEARs also directs the applicant to identify aerodromes which includes aircraft landing areas within 30 kilometres of the nearest WTG, the AIA considers only these within three nautical miles (or about 5.5km).

Recommendations:

Revising the EIS, and AIA to ensure:

- 2.1. un-certified aerodromes on NPWS estate or those used by the agency including a Helipad at Yanga Homestead 34° 42.91' S and 143° 36.576' E which is within 30 kilometres of the nearest WTG. NPWS also advises that temporary aircraft landing facilities for emergency purposes can occur anywhere on NPWS estate during a state of emergency, or during elevated risk land management operations. What restrictions on aircraft use will need to apply based on the operation of JRWFP, and how will this directly affect NPWS.
- 2.2. safety risk assessments consider NPWS emergency and firefighting aerial operations (as both low flight and low visibility operations) specific to the shared interface with Yanga SCA. Ensuring the maintenance of acceptable levels of safety are delivered in this locality, clear mitigation is articulated and will translate into a relevant JRWFP operational plan.

3. Biodiversity

On review of the EIS, NPWS raises two key concerns with the Yanga Group and its connection to the Murray River Group of reserves. The initial matter is around landscape level habitat connectivity, and the protection of resource access, functionality of flyways and migratory pathways. The EIS identifies a reduction in corridor functionality only along Condoulpe Creek, although it is noted that the proposed JRWFP will only impede connectivity not severe it entirely. The wider effects on Yanga SCA and NP, around wetland, migratory or the seasonal movement of threatened woodland birds appears to be absent.

NPWS recognises that no direct physical impacts are likely to occur to the Yanga Group due to the nature of the designed buffer, which the agency remains appreciative. However, the indirect impacts associated with JRWFP remain of serious concern as the Yanga Group contains 14% of the Lowbidgee Floodplain, is listed on the [Directory of Important Wetlands in Australia: Third edition, DCCEEW](#) and collectively they contain one of the largest waterbird breeding colonies in Australia. So impacts are raised around the proposed JRWFP directly and its contribution to the cumulative impacts occurring to the Yanga Group.

Recommendation:

Revising the EIS to:

- 3.1. values of the Yanga Group are considered in the overall impact assessment, inclusive of their wetland and migratory bird habitat, local and landscape level connectivity as a significant part of the Lowbidgee Floodplain. Effects of the JRWFP on threatened woodland, migratory and waterbirds, resources use and in sustaining breeding colonies needs to be adequately considered.
- 3.2. consultation with NPWS in the preparation and delivery of the Bird and Bat Adaptive Management Plan, and inclusion of the NPWS in ongoing monitoring outcomes and statutory reporting on JRWFP operation.

4. Bushfire

On review of the EIS, and the Junction Rivers Wind Project, Land Use Conflict Assessment prepared by Umwelt (Australia) Pty Ltd, dated 14 May 2024 (LUCA) as Appendix 17. Noting that no separate Bush Fire Assessment Report was provided.

The LUCA identifies the JRWFP as a threat to the Yanga Group, as a potential ignition source. Wildfires in this locality are notably linked to both natural sources (lightning strikes) but also to human induced sources associated with transmission lines, mechanical failure, machinery operation, escaped property burns and acts involving the use of ignition source equipment.

In assessing impact, the LUCA mentions the Mid Murray Zone Bush Fire Management Committee's role and the application of the Bush Fire Risk Management Plan (Mid Murray BMFC, 2009) but appears not to have considered the application of the Mid Murray Fire Access and Fire Trail Plan (FAFT Plan) as adopted under section 59A of the *Rural Fires Act 1997*. This will be an issue if the proposed JRWFP will as part of its construction and operation, restrict or close designated fire trails as listed under the FAFT plan, noting that it remains an offence under the Rural Fires Act to do so. Noting the some of the connected trails are linked to Yanga SCA and its internal and boundary trail network.

The EIS/LUCA does acknowledge the Yanga National Park, Yanga State Conservation Area and Yanga Nature Reserve Plan of Management (NPWS, 2020) and its Fire Management Strategy. However, the application of both with respect to the interface with Yanga SCA and the operation of connected fire trails is absent, deferring considerations to the future emergency plan preparation. This may lead to noncompliance with the Rural Fires Act and reduce bush fire response.

Recommendation:

- 4.1. In preparing the Bush Fire Emergency Management Plan address the interconnected interface with the JRWFP Subject Site with Yanga SCA in consultation with NPWS. Notification is to be directed to NPWS Lower Darling Area office via npws.lowerdarling@environment.nsw.gov.au or (02) 03 5021 8900, any emergency notification to the West Branch Duty Officer via 02 82751740 or NPWS Statewide Duty Officer 02 9895 6444. The plan should allow for safety provisions around aerial firefighting response, ground access to and via JRWFP to the Yanga SCA interface and retention of the fire trail network to improve bushfire response. In preparing the plan consider:
 - (a) [Yanga National Park, Yanga State Conservation Area and Yanga Nature Reserve Plan of Management \(NPWS, 2020\)](#) as the statutory plan governing operations under the NPW Act.
 - (b) [Murrumbidgee Valley National Park \(Yanga Precinct\) Fire Management Strategy \(OEH, 2014\)](#), as the operational document delivering the statutory intent of the PoM.
 - (c) Mid Murray Fire Access and Fire Trail Plan as adopted under the [section 59A](#) of the *Rural Fires Act 1997* ensuring retention of, unrestricted access to, and the sustained condition of the designated fire trail network, refer to [Fire Trails - NSW Rural Fire Service](#) for guidance on adopted standards.

5. Heritage

On review of the EIS and the Junction Rivers Wind Project, Historical Heritage Impact Assessment prepared by Umwelt (Australia) Pty Limited, dated May 2024 (HHIA) as Appendix 13.

The HHIA desktop analysis outcome showed no heritage items of World, National, State or local value within or in close proximity to the Subject Site. The closest listed heritage item is the Yanga Pastoral Station Complex (Historic Heritage Information Management System (HHIMS) Item 10626) which is to the north of the proposed JRWFP.

NPWS advises that the Yanga Pastoral Station Complex is not just one HHIMS item, it is broken down into a number of individual listings, and these are far more extensive than just the Yanga Homestead and its immediate surrounds. This is not reflected in the HHIA.

NPWS confirms that no direct impacts to the Yanga Pastoral Station Complex and individual precincts will occur. What NPWS raises is around the indirect impacts attached to the heritage landscape view lines, as a pastoral station listing these remain important. It is noted that the WTGs once installed will be visible from predominate features in the Yanga Pastoral Station Complex, these also making up important visitor precincts. These heritage and visitor precincts due to their position and elevation will have views of the JRWFP in the absence of vegetation screening on the horizon. According to the HHIA and LVIA the LRWFP will impact on view lines, but will not dominate, nor will it remove the focus from crucial features of those vista. NPWS advises that the impacts to the heritage significance of Yanga Pastoral Station Complex will occur.

Recommendations:

Revising the EIS and the HHIA to ensure:

- 5.1. Yanga Pastoral Station Complex (DCCEEW HHIMS 10607) full curtilage extent is recognised and shown on a figure compared to the proposed JRWFP and its WTG placement. Refer to the *Tonkin Zulaikha Greer Architects, Yanga Conservation Management Plan, prepared for Office of Environment and Heritage, 2013* (Yanga CMP) for context.
- 5.2. access to Historic Heritage Information Management System Sites data set [Historic Heritage Information Management System \(HHIMS\) Sites | Dataset | SEED \(nsw.gov.au\)](#) is advised when considering the full list of section 170 *Heritage Act 1977* items. Ensure impact assessment considers and reflects the level of significance attributed to Yanga Pastoral Station Complex as per the Yanga CMP. Confirm that impacts remain limited to 'minor adverse' based on the full extent of the curtilage. Contact with the NPWS Historic Heritage team is advised historicheritage.information@environment.nsw.gov.au.

6. Hydrology

On review of the EIS and the Junction Rivers Wind Project, Water Resource Impact Assessment (WRIA) as prepared by Umwelt dated May 2024 (WRIA) as Appendix 15.

NPWS concerns with hydrology relate to the protection of Condoulpe Creek, and Condoulpe Lake as these waterways interface with JRWFP Stage 1 and flow north to Yanga Lake on Yanga NP. Yanga lake is identified as a sensitive wetland ecosystems and receiving environment for runoff via the Condouple system. The JRWFP Subject Site has moderate to highly erodible soils, although the WRIA states a low hazard rating under the erosion hazard assessment, water quality is still a concern.

The JRWFP will, according to the EIS, require 400–500 mega litres (ML) of water over the four-year construction period. The proposal has an assumed peak 600–700 kL/day raw with a 40 kL/day potable water requirements with an average daily breakdown of 300–350 kL/day raw with 20 kL/day of potable water. Water sources are not confirmed as part of the proposal at this stage.

Recommendations:

- 6.1. Revising the EIS, and WRIA to identify the available, and secured sources of potable and raw water needed to deliver on the proposed JRWFP.

Conditioning the post approval process to:

- 6.2. effectively managing erosion risk and threats to sensitive environments during construction with the preparation of specific Erosion and Sediment Control Plans (ESCP). The plans are to apply *Managing Urban Stormwater soils and construction* Volume 1 4th ed (Landcom, 2004) and Volume 2A (DECC, 2008) (the 'Blue Book') and

consider the Publications - International Erosion Control Association (austieca.com.au) Best Practice Guides.

- 6.3. ensure in the preparation of the Construction Environmental Management Plan adequately applies functional controls to
 - a) protect riparian zones and site hydrology, maximising vegetation retention and minimise disturbance within or near waterways supporting natural functions including connectivity. Consider restoration of sensitive areas.
 - b) monitor water quality in downstream locations during construction. Monitoring is to reduce the risk waterways and the threat to Yanga NP providing early warning of increased sediment mobilisation or movement of contaminants during construction, and post construction until the Subject Site is stabilised.

7. Landscape and visual amenity

On review of the EIS and the Junction Rivers Wind Farm, Landscape and Visual Impact Assessment prepared by Moir Landscape Architecture Pty Ltd, dated 23 May 2024 (LVIA) as Appendix 9.

The LVIA showed Yanga SCA, Yanga NP and Murray River RP as sensitive receivers, having significant vistas of moderate to high scenic quality rating, retaining key landscape and recreational values. The LVIA has considered a number of significant visitor precincts as Regatta Beach Picnic Area (closest to JRWFP), Yanga Woolshed and the Mamanga, Kyalite and the Willows Campgrounds. NPWS accepts the outcomes of the LVIA for these key locations, noting that the JRWFP will likely be visible from most but not a dominant feature due to the distances involved and the varying degrees of vegetation screening the vista. The altered views from the Yanga Homestead and Yanga Lake viewing platform are still a concern. Although the LVIA states that the JRWFP is not a dominant feature, with key attributes such as Yanga Lake staying intact as the main landscape feature, NPWS is still aware of the potential impacts to the greater overall scenic value.

Affects to the dark sky in this locality due to light pollution, or light spill from JRWFP. Although the EIS states that the operational, maintenance and security lighting will be designed to reduce disturbance. Potential visual impacts remain, and these are associated with lighting of buildings, temporary accommodation, construction facilities, substations/switching stations.

Recommendations:

Conditioning the post approval process to:

- 7.1. ensure alteration of scenic values and view lines from the Yanga Lake Viewing Platform at Yanga Homestead are re-assessed post installation of the WTGs as part of Stage 1 (installation of WTG 18 to 30), and at Stage 2 (installation of WTG 1 to 17) within the northern part of the Subject Site above Balranald-Moulamein Road. Measures to further reduce impacts are to be considered and discussed in consultation with NPWS and implemented as needed.
- 7.2. [National Light Pollution Guidelines for Wildlife](#) (DCCEEW, 2023) measures are applied to achieve improved lighting design which considers the natural (biodiversity) values attributed to Yanga SCA and Yanga NP, reducing lighting pollution, or light spill effects.

8. Noise and vibration

On review of the EIS, Junction Rivers Wind Project , Background Noise and EIS Noise Assessments as prepared by Marshall Day Acoustics Pty Ltd, dated 22 May 2024 (NA) as Appendix 10.

The NA has applied a general base reference level of 45 dB LAeq to all associated receivers. Figures and statistics provided show the Yanga Group are outside the 30 dB LAeq contour for the

Vestas V162-6.2 Turbine and outside the 35 dB LAeq for the Goldwind GW165-6.0 Turbine with ancillary infrastructure at 40 dB LAeq, 15min during daytime and 35 dB LAeq, 15min at night. NPWS raises no concerns with the predicted noise impacts, requesting only that the Yanga Group is treated as a sensitive receiver during the JRWFP construction and operation.

The NA discusses the use of blasting as an installation method in construction of the WTGs, however no assessment of impacts is provided. Blasting if utilised as a method for construction must be considered, as it will affect the receiving environment.

Recommendations:

Conditioning the post approval process to:

- 8.1. ensure the blasting plan for the Stage 1 works is prepared in consultation with NPWS. Ensuring impacts to our estate, assets (road and trail network e.g. bridges and other assets) and the safety of our staff is managed accordingly. Adherence to the 'Australian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration' (ANZEC, 1990) is recommended.
- 8.2. ensure the Construction Noise and Vibration Management Plan (CNVMP) sets up a baseline noise limit criterion of 35dB(A) for Yanga SCA and Yanga NP as a sensitive receivers. If the noise limits affecting NPWS estate exceed 40dB(A) during blasting or for extended periods of time NPWS requests additional assessment on sensitive biodiversity values attributed to the Yanga Group. Noise monitoring on Yanga SCAs interface during construction and initial operation of Stage 1 of the JRWFP is requested to ensure compliance.

9. Telecommunications

On review of the EIS and the Telecommunications Impact Assessment prepared by Middleton Group Engineering Pty Ltd, dated 16 May 2024 (TIA) as Appendix 19.

The TIA recognises that theoretically the WTGs have the potential to cause interference with telecommunication systems. NPWS advises that based on the proposed JRWP no foreseeable low-power RF link paths or transient mobile transmission impacts were detected at the time of assessment. As the NSW Telecommunications Authority link has a higher frequency and smaller Fresnel zone, it will therefore not experience interference from the current configuration of the WTGs.

NPWS raises issues attributed to the inadequacies of the current fix telecommunications system in this locality, and the agency's reliance on seasonal and emergency deployment of temporary towers (or Cells on Wheels). These are used for periodic and emergency operations to augment the radio network, ensuring consistent communications. NPWS accepts that these are not registered on the Australian Communication and Media (ACM) system and are variable in their application, but they do remain critical. Overall NPWS is still reliant on portable towers to provide and ensure reliable ongoing coverage during high risk program delivery (inclusive of aerial shooting, baiting and wildfire response). These remain critical to both ground based and aerial operations. This has not been addressed as part of the TIA.

Recommendations:

- 9.1. Revising the EIS and the TIA to ensure use of the mobile communication systems, as deployment of temporary towers (or Cells on Wheels) for periodic and emergency operations to ensure reliable radio coverage is considered. This includes the use of COWs for NPWS high risk program delivery, ensuring it is considered, assessed and residual risk articulated with respect to the Yanga Group and the NSW Telecommunication Authority as the radio network operator.

- 9.2. Conditioning the post approval process to ensure a future operational plans for JRWFP ensure VHF simplex channels, future UHF PSN Trunking services and mobile systems remain operational to their current level. NPWS simply requests a set pathway to report and seek resolution on any telecommunications link or system performance issues associated with the JRWFP into the future via inclusion of this into their operational planning.

ATTACHMENT D BCS Bilateral Assessment information and data requirements

For BCS to complete the assessment of EPBC Act-listed threatened species and communities, the following information is required in the BDAR.

1. Background and description of action

The EIS / BDAR must include:

1. Descriptions and maps of the operational and construction footprints of the project that relate to MNES.
2. Descriptions and maps of staging and timing of the action that may impact on MNES.
3. Maps of the subject land boundary showing the final proposal and disturbance footprint with regards to MNES.

Submit GIS shapefiles of all maps that relate to MNES.

2. Landscape context of the MNES

Ensure that the 'Establishing the site context' of BAM 2020 (Section 3) have been fully met in the BDAR in relation to MNES.

3. EPBC Act listed threatened species and communities

The EIS / BDAR must include the following:

1. Demonstration that field-based survey effort meets BCS survey guidelines and, where available, Commonwealth survey guidelines.
2. Demonstration of access and use of supporting databases (e.g. NSW BioNet Vegetation Classification, NSW BioNet Threatened Biodiversity Data Collection, NSW BioNet Atlas, Commonwealth Species Profile and Threats Database search results).
3. Demonstration of access and use of published peer-reviewed literature.
4. Demonstration of access and use of local data (if relevant).
5. Demonstration of appropriate mapping of all EPBC Act-listed threatened species and communities in accordance with the relevant Commonwealth listing advice.
6. Demonstration of consideration of important populations and critical habitat as defined in Approved Listing Advice, Approved Conservation Advice and Recovery Action Plans.
7. A list of all EPBC Act listed threatened species and communities that occur on the subject land, or in the vicinity (including species that are 'ecosystem credits' in BAM).
8. A discussion, with data and analysis where any species and communities identified by the Department of Climate Change, Energy, the Environment and Water (DCCEEW) referral documents have been ruled out as occurring on or near the subject site.

4. Avoidance, minimisation, mitigation and management

The EIS / BDAR must include:

1. The demonstration of all feasible alternatives and efforts to avoid and minimise impacts on EPBC Act listed threatened species and communities (including direct, indirect and prescribed impacts) including an analysis of alternative:
 - a. designs and engineering solutions
 - b. modes or technologies
 - c. routes and locations of facilities
 - d. sites within the subject site

- e. the identification of any other site constraints in determining the location and design of the proposal (such as bushfire protection requirements, flood planning levels, servicing constraints, etc).
2. A discussion and justification of all feasible measures to avoid, mitigate and/or manage impacts on EPBC Act listed threatened species and communities (including direct, indirect and prescribed impacts) including:
 - a. techniques, timing, frequency and responsibility
 - b. identify measures for which there is risk of failure
 - c. evaluate the risk and consequence of any residual impacts
 - d. any adaptive management strategy proposed to monitor and respond to impacts.

5. Impact assessment

The EIS / BDAR must include the following:

1. Identification of the residual adverse impacts likely to occur to each EPBC Act listed threatened species and/or community after the proposed avoidance and mitigation measures are taken into account.
2. Justification and evidence for the predicted level of impact, with reference to the Commonwealth's 'Significant Impact Guidelines 1.1 - Matters of National Environmental Significance'² and DPIE's 'Guidance to Assist a Decision- Maker to Determine a Serious and Irreversible Impact'³.
3. Provide a summary table with the following information:

Name of EPBC Act listed entity	Nature & consequence of impact (direct & indirect)	Duration of impact (e.g. construction, operation, life of project)	Quantum of impact	Consequence of impact (local, state & national scales)	Impact requires offsetting? (significant or not)

4. Provide data and justification where any EPBC Act-listed threatened species or communities to be considered in the BDAR are considered to be at low risk of impact during the assessment.

6. Offsets

The EIS / BDAR must include the following:

1. The identification of any MNES that have not been offset using the BAM.
2. Details of how impacts requiring offset correlate to the MNES impacts.
3. Details of the PCTs that require offsetting and the number and type of ecosystem credits required for impacts to MNES.

²<https://www.dcceew.gov.au/environment/epbc/publications/significant-impact-guidelines-11-matters-national-environmental-significance#:~:text=This%20Significant%20impact%20guidelines%20provide,and%20Biodiversity%20Conservation%20Act%201999.>

³<https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/guidance-decision-makers-determine-serious-irreversible-impact-190511.pdf>

4. Details of threatened species requiring offset and the number of species credits required for impacts to MNES.
5. A demonstration of the correct uses the BAM (and BAM calculator) to identify the number and class of biodiversity credits that need to be offset to achieve a standard of 'no net loss' of biodiversity.
6. Any details of ecological rehabilitation and/or biodiversity conservation actions proposed for offsetting.
7. The identification of any other offsetting approach proposed, such as land-based offsets, retiring credits by payment into the Biodiversity Conservation Fund and/or through supplementary measures.
8. Provide a summary table with the following information:

Threatened Species / Community listed under EPBC Act	PCTs associated with the ecosystem credit species / ecological community (if applicable)	Area of Impact (ha)	Credits Required	Offsetting Approach	Reference (EIS/BDAR)
TOTAL					

7. Other considerations

The EIS / BDAR must include the following:

1. Consideration of all relevant Commonwealth guidelines and policy statements that are applicable to the action and listed threatened species and/or communities, including but not limited to:
 - a. International environmental obligations
 - b. Recovery Plans
 - c. Approved Conservation Advice
 - d. Threat Abatement Plans
2. An assessment for each EPBC Act listed threatened species and/or community, that has been adequately informed by applicable Commonwealth guidelines and/or policy statements. For example, the interaction between the proposed action and important populations or critical habitat identified in policy documents and/or the interaction between the proposed action and threatening processes or recommended conservation actions outlined in Commonwealth policies and plans.