Your ref: SSD-38358962
Our ref: DOC24/399724

Lauren Clear
Senior Environmental Assessment Officer
Department of Planning, Housing and Infrastructure- NSW Planning Group

Via Major Projects Portal: PAE-71111225

Dear Lauren

Subject: **Keri Keri Wind Farm (SSD-38358962)**

Thank you for your email dated 23 May 2024 seeking advice from the Biodiversity, Conservation and Science Group (BCS) of the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) 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 Biodiversity Assessment Method Calculator (BAM-C) and the associated spatial data for the project were not submitted to BCS until 17 June 2024. Detailed review of a BDAR cannot commence until all the required data has been provided. This means 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) issued to the proponent on 14 April 2022, the Supplementary SEARs (EPBC 2022/9176) and the BCS SEARs advice dated 4 April 2022.

BCS considers that the EIS is consistent with the Secretary's requirements for flooding, contingent on the flood risk management issues being resolved prior to project determination.

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

BCS has found that the Biodiversity Development Assessment Report (BDAR) in its current form is not consistent with the Biodiversity Assessment Method (BAM). To meet the requirements of the BAM and ensure the calculated credit liability is correct, the proponent will need to address several matters and also provide a Bird and Bat Adaptive Management Plan (BBAMP). As part of revising the BDAR and developing the BBAMP, we request the applicant and their BAM accredited assessor engage with BCS and NPWS to address the recommendations in **Attachment A**.

In summary, the proponent needs to:

- Provide further detail on the efforts the proponent has made to avoid and minimise impacts to SAII entities.
- Complete further assessments and survey to adequately assess the impacts to Austral Pillwort and Plains-wanderer
- Make corrections to the vegetation classification, stratification and mapping that underpin the impact assessment, which are likely to affect the biodiversity credit obligation
- Fully assess, based on appropriate surveys, the impact of operation of the proposal on bird and bats at risk of turbine strike
- Provide further information to identify all impacts of the proposal, including ancillary infrastructure and indirect impacts

- Provide additional and more specific detail to allow BCS to assess if the proposed mitigation measures will be effective in managing residual impacts
- Provide an assessment of the proposal's impact on Matters of National Environmental Significance (MNES) that is compliant with Australian Government guidelines and that will allow BCS 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 Commonwealth'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 impacts to MNES to ensure that the assessment report that we prepare for the Australian Government contains all relevant information. **Attachment D** details the information and data we require for this assessment.

BCS requests that the proponent be required to develop all plans required as a Condition of Approval that relate to flood risk management or biodiversity 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
15 July 2024
Director South West
Biodiversity, Conservation and Science Group
NSW Department of Climate Change, Energy, the Environment and Water

ATTACHMENT A – BCS & NPWS Assessment Summary for Keri Keri Wind Farm EIS
ATTACHMENT B – BCS Detailed Comments for Keri Keri Wind Farm EIS
ATTACHMENT C – NPWS Detailed Comments for Keri Keri Wind Farm EIS
ATTACHMENT D – BCS Bilateral Assessment information and data requirements

ATTACHMENT A BCS & NPWS Assessment Summary for Keri Keri Wind Farm EIS

In preparing this advice BCS have reviewed the following documents:

- Keri Keri Wind Farm Environmental Impact Statement, ERM 17 April 2024
- Keri Keri Wind Farm Biodiversity Development Assessment Report, ERM 17 April 2024
- Keri Keri Wind Farm Flood Assessment, BMT, March 2024

Key Issues

Flood Risk Management

Additional consultation and detail are required to assess flood risk.

1.1. Actively engage with the local Council and the NSW SES to demonstrate that emergency management matters have been discussed and supported. This should inform the development of a site-specific flood emergency response plan.

2.1. Investigate the potential riverine risk posed to the project site because of breakout flows originating from the Murrumbidgee River during the extreme event scenario.

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.

Biodiversity

The candidate list of threatened species, survey effort, suitable habitat and species polygons require review as they include errors or have not been prepared in accordance with the BAM.

4.1. Update the BDAR to ensure that the exclusion of suitable habitat for all candidate species (and ecosystem species) is in accordance with the BAM.

4.2. Prior to determination, conduct surveys for candidate species which have been excluded based on the presence/absence of nearby records.

5.1. Provide details of threatened flora survey effort (including in all areas mapped as PCT 44) to demonstrate how much of each associated PCT has been surveyed during the required months.

5.2. Provide additional information to confirm threatened species surveys were conducted in accordance with relevant guidelines and TBDC for the following species and guilds: *Ardeotis australis* (Australian Bustard), Forest owls, Microbats, and Amphibians. If additional surveys cannot be undertaken, presence must be assumed or an expert report provided.

5.3. Survey using harp trapping to determine the presence or absence of *Myotis macropus* and *Nyctophilus corbeni* within the subject land.

5.4. Include *Myotis macropus* in Table 5.3 of the BDAR and assess it in accordance with Section 4.1.1 of the Biodiversity Assessment Method Operational Manual - Stage 1.

6.1. After survey is completed, revise all species polygons for ‘area’ species to include all suitable habitat.

7.1. Ensure any additional targeted survey to reduce the area of assumed presence is finalised and included in a revised BDAR before the project is determined.

The assessment and calculation of direct impacts does not include all impacts.

8.1. Identify all ancillary infrastructure and revise the assessment and BAM-C to include all direct and indirect impacts to biodiversity.

9.1. Revise the assessment to include all impacts to native vegetation along the haul route and include in separate BAM-C cases.

BCS is unable to advise on Serious and Irreversible Impacts (SAII) as the SAII assessment is incomplete.

10.1. Update section 9.1 to present the impacts to the SAII entity Plains-wanderer.

11.1. Survey for *Pilularia novae-hollandiae* and complete a SAII assessment.

PCT and vegetation zone identification and mapping need to be revised as they have inaccuracies that can affect the biodiversity credit calculation.

12.1. Revise the PCT mapping to more accurately reflect vegetation and edaphic patterns evident on aerial imagery.

12.2. Sample additional VI plots to demonstrate that PCT allocation and vegetation condition across the subject land has been adequately sampled and mapped.

12.3. Consider if the use of 'wet' benchmarks is applicable.

12.4. Update Table 2-4 or include a table in Chapter 4 that shows, for each vegetation zone, the BAM plot identifiers for plots within the development footprint, within the subject land, and any BAM plots outside the subject land that were used in vegetation zone calculations, including distance to the vegetation zone.

12.5. Revise the BDAR and spatial data to ensure the numbering of vegetation zones is consistent with the BAM-C.

12.6. Revise the CLUSTER analysis to ensure BAM plot identifiers correspond with field datasheets and spatial data.

12.7. Justify the use of annual native and weed species in the floristic analysis.

12.8. Provide a more complete discussion of the CLUSTER analysis and results with reference to the influence of number of samples, seasonal variation, rainfall records, and variation in disturbance, condition, vegetation patterns across the project area, and the NSW PCT classification.

13.1. Revise the vegetation classification to demonstrate if PCT 44 occurs and include any mapped areas as the original PCT. Separately map different condition states of PCTs 163 and 164 where they exist.

14.1. Revise vegetation zone mapping and descriptors according to BAM section 4.3.1. Include additional justification if further ground-truthing demonstrates that one vegetation zone is adequate to represents the variation of each PCT present in the subject land.

14.2. Ensure vegetation zones in high condition are indicated as such in the BDAR, BAM calculator, and spatial data.

Specific detail is lacking to show how the proponent has avoided and minimised biodiversity impacts.

15.1. Provide detail for all avoid and minimise measures to be implemented through post-approval EMPs, in accordance with BAM 7.1.2 and 7.2.2(2).

15.2. Document measures to minimise impacts to raptors at proposed turbines that are within 500 m of recorded stick nests.

15.3. Document the difference in biodiversity impacts between the scoping layout and the layout presented in the EIS.

Assessment of prescribed and indirect impacts associated with the operation of the proposed project are insufficient and require review.

16.1. Revise the identification and assessment of all prescribed impacts according to BAM sections 6 and 8.3, with reference to current ecological knowledge, literature and existing species records.

16.2. Review the assessment to address the connectivity values of naturally open or non-woody native vegetation. Revise in detail all aspects of the BDAR where connectivity has been assessed and/or is relied on to justify exclusion of species from the assessment.

17.1. Revise the information in section 7 of the BDAR to clearly address the prescribed impact identification requirements in BAM section 6.1.5, the avoid and minimise considerations in BAM section 7.2.1, and the assessment of the (prescribed) impacts of wind turbine strike in BAM section 8.3.5.

17.2. Revise the prescribed impact assessment to justify the exclusion of protected birds and bats.

17.3. Revise the list of vagrant species to comply with BAM section 5.2.2 and the BAM glossary and revise the assessment to include any species that do not meet the BAM definition of vagrant.

17.4. Prepare a separate BBAMP that is appended to the BDAR.

18.1. Conduct a full two years of pre-construction BBUS, across all seasons and including paired at height data to ensure the BBAMP is supported by sufficient data.

18.2. Provide the raw data from BBUS results in the revised BDAR and digital data package.

19.1. 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.

The indirect impact assessment requires review.

20.1. Identify and assess all indirect impacts of the proposal on native vegetation and habitat during construction and operation in Section 8.2 and Table 8-4 and include the results in Section 11.4.

20.2. Provide details for all measures necessary to mitigate or manage indirect impacts.

Mitigation measures are not specific to the impact, location or affected threatened entities.

21.1. Revise Table 8-7 to detail auditable mitigation and management measures to be implemented through post-approval plans.

21.2. Include a unique identifier for each mitigation measure in Table 8-7 and ensure they correspond with the EIS.

The assessment of Matters of National Environmental Significance requires review.

22.1. Provide a section or chapter in the BDAR and specifically address each of the Bilateral assessment requirements detailed in BDAR Section 1.1.4 and Table 1-1 (and **Attachment D** to this response).

Administrative Issues

23.1. Update landscape assessment buffers to include both site based and linear buffers as appropriate and review percent native vegetation categories at completion.

23.2. Update the BAM-C case to be a site based rather than a linear based assessment.

24.1. Update the BAM-C to be consistent with the BDAR.

National Parks and Wildlife Services

1. Recognition of Yanga State Conservation Area

Revise the EIS, and relevant appendices to:

1.1. apply the NPWS Guidelines - *Developments adjacent to National Parks and Wildlife Service lands | NSW Environment and Heritage* (DPIE, 2020) in recognising environmental matters relevant to development adjacent to Yanga SCA.

1.2. ensure relevant figures in the EIS and supporting technical appendices adequately and consistently display (and reference) Yanga State Conservation Area, Yanga National Park and Yanga Nature Reserve.

1.3. use the NSW SEED data – NSW National Parks and Wildlife Service (NPWS) Estate layers to ensure true and correct representation of land reserved and acquired under the *National Parks and Wildlife Act 1974.*

1.4. provide an adequate and clearly stated buffer distance between the nearest Wind Turbine Generator (WTG) and the Yanga SCA boundary acknowledging the placement distance and any issues arising from its proximity to Yanga SCA. This is relevant to buffers afforded from WTG 76 and 77, WTG 105 and 106, WTG 128 and 129 and WTG 153 along the western edge of the proposed project.

1.5. confirm the location of the workers accommodation camp as it relates to the project development site and distance away from Yanga SCA, recognising the designated primary service access point for the camp.

1.6. consider how unauthorised egress or use of parks will be managed due to the general proximity and accessibility of the lands reserved under the *National Parks and Wildlife Act 1974*. Recognise as part of all future project operational plans that use and access to Yanga SCA, is limited to activities authorised under the adopted *Yanga National Park, Yanga State Conservation Area and Yanga Nature Reserve Plan of Management* (DPIE, 2020).

2. Allow for colocation of transmission and grid connection infrastructure.

2.1. Acciona Energy Australia Global Pty Ltd and Department of Planning, Housing and Infrastructure (Planning) consider consolidation of, and colocation of transmission and grid connection infrastructure so undue pressure is not placed on land reserved under the *National Parks and Wildlife Act 1974*.

3. Landscape and visual impact.

Revise the EIS, and Appendix K to ensure:

3.1. recognition of all land reserved and acquired under the NPW Act as a state significant conservation land use, not minimal use as depicted and described in the LVIA.

3.2. *NSW Dark Sky Planning Guidelines* (DPE, 2023) are utilised as a guide in designing adequate lighting to avoid excessive light spill into the night sky to protect Yanga SCA night sky values where possible.

3.3. *National Light Pollution Guidelines for Wildlife* (DCCEEW, 2023) to ensure adequate design and consideration of the natural (biodiversity) values attributed to Yanga SCA and ensure:

a) aviation hazard lighting on WTGs and meteorological masts (referred to as wind monitoring towers (WMTs) as advised by Civil Aviation Safety Authority (CASA) is appropriately designed and operated.

b) internal project lighting installed at the substations and other buildings for occupation (Workers Accommodation Camp), night work, security and emergency operational

purposes are designed to reduce light pollution and excessive light spill on to Yanga SCA.

3.4. confirm workers accommodation camp location and design ensuring common areas, and car parking are confined to the internal (central) zones to contain or reduce incidence of light spill outside of the confines of the camp.

3.5. impacts on the visual environment with respect to Yanga SCA as it relates to the zone of visual influence, viewpoints situated in Yanga SCA, not just the Willows Picnic Area and Campground (as VP08), other areas include:

a) Yanga Homestead Station and the visitor precinct

b) NPWS staff accommodation (residential sites) Oakhampton cottage and Oakhampton Irrigation cottage .

3.6. provide for an assessment of shadow flicker on Yanga SCA and effects on the values of Yanga SCA, especially natural (biodiversity) values and Keri Keri Road safety (as used by NPWS staff, Yanga SCA visitors and commercial operators.

4. Noise and vibration.

Revise the EIS, and Appendix I to ensure:

4.1. acknowledge noise levels above 40dB(A) have the potential to impact on wildlife occupying Yanga SCA, this includes critically endangered bird species. NPWS advises noise levels during construction and operation of the proposed project on the Yanga SCA boundary interface is restricted to, not exceed 40sB(A). If exceedance occurs impacts on biodiversity values of Yanga SCA will need to be assessed in more detail.

4.2. noise limits with a baseline noise limit criterion of 35dB(A) is to be applied to all NPWS staff accommodation (residential sites) such as Oakhampton cottage and Oakhampton Irrigation cottage, please confirm.

4.3. recognition of the cultural access and use by the Aboriginal community, commercial tour operators and park-led vehicle tag-along tours, scientific survey and monitoring, and rewilding release as activities on Yanga SCA, assess how use and visitor experience will be affected by the proposed project construction and operation.

4.4. blasting is adequately assessed as part of the EIS. This shall include impacts to the values (natural and cultural) of the Yanga SCA and in the maintenance of safe access via Keri Keri Road. Noting that a number of project WTGs are located on the immediate boundary of the project development site.

4.5. provide an acoustic (noise) monitoring program to ensure levels are adhered to, and effects on Yanga SCA can be adequately reported.

5. Traffic and oversized vehicle movement.

Revise the EIS, and Appendix J to ensure:

5.1. improvements works required to the Sturt Highway and Keri Keri Road intersection, and the creation of the large area of hardstand on the inside corner of Keri Keri Rd to accommodate the OSOM vehicles is design to avoid all impacts to Yanga SCA.

5.2. Keri Keri Road site entrances (all 3) are fit for purpose and the proponent can confirm no upgrades are required to service turning requirements or capabilities of the OSOM vehicles delivering wind farm components from Keri Keri Road into the project development site. Confirm no impacts to Yanga SCA.

5.3. secure, safe and unrestricted traffic flow can be maintained along Keri Keri Road with no impacts to NPWS park management access, Yanga SCA visitors, commercial operators and scientific/research access. Confirm if the road is fit for purpose.

5.4. unsealed road standards are flagged. NPWS suggests the local road comply with the Unsealed Roads Best Practice Guide 2 (ARRB, 2020) with confirmation on all-weather status.

5.5. confirm in consultation with council preferred speed limits for Keri Keri Road, and ensure signage is established, this will ensure all road users comply to ensure safety.

5.6. In preparation of the Construction Traffic Management Plan (CTMP), ensure:

a) consultation with NPWS.

b) maintenance requirements for the duration of project construction on Keri Keri Road are specified.

c) inclusion of dust suppression during construction, as this forms a critical requirement in the prevent of dust/sediment smothering of threatened and sensitive flora on the interface of Yanga SCA and the Keri Keri Road corridor.

d) implementation of a Drivers Code of Conduct. This should cover expectations for driver behaviour covering the safety of Yanga SCA visitors, users and NPWS staff in undertaking land management functions utilising Keri Keri Road as critical access to Yanga SCA.

5.7. NPWS is included as an emergency contact, with the NPWS Lower Darling Area via npws.lowerdarling@environment.nsw.gov.au and 03 5021 8941 with emergency notification directed to NPWS Park Operations West Branch Duty Officer via Ph: 02 8275 17406.

6. Biodiversity.

Revise the EIS and Appendix G to ensure:

6.1. biodiversity values are adequately considered in the context of Yanga SCA include likely impacts of noise and light pollution on threatened and migratory animals in this locality.

6.2. Yanga SCA is considered for indirect and cumulative impacts on biodiversity, including impacts on landscape connectivity, migratory species importance and as likely release site for the Plains-wanderer *Pedionomus torquatus*.

6.3. threatened species and conservation significant as listed below are considered, as these have been observed in Yanga SCA, proximate to the project and the Keri Keri Road Reserve:

a) Greenhood Orchid *Pterostylis pedina* observed on Yanga SCA and its likely to occur on the proposed project development site.

b) Plains-wanderer *Pedionomus torquatus* require further assessment as this critically endangered species detected on Yanga SCA during sound monitoring programs. Although not considered a collision risk due to its ground dwelling nature, construction and operation of the proposed project will likely impact on habitat utilisation and resource use on Yanga SCA.

c) Australian Bustard *Ardeotis australis* has been observed on the parks, the proposed project will likely impact on habitat utilisation and resource use.

d) Little Eagle *Hieraatus morphnoides* and ensure avoidance of all existing stick nests, not ‘avoided where possible’.

6.4. migratory and wetland dependent species making up a known 64 species with 43 of them breeding (including colonial nesting species) across the parks (Waugorah Lake, Tarwillie, The Avenue, Piggery, Yanga Creek wetlands and Nimmie–Caira lignum swamps) this includes Pelicans given the breeding ground is to the north in Gayini

Nimmie-Caira and large numbers migrate to the area especially to Yanga Lake for foraging.

6.5. preparation of the Bird and Bat Management Plan, and project Biodiversity Management Plan includes:

a) consultation with NPWS as the adjoining land manager, with a vested interest in the protection of migratory and threatened birds and bats across the Yanga parks.

b) consideration of pest animal and weed management strategically, using management strategies delivered in collaboration with NPWS as an adjoining land manager.

c) vehicle collision risk, and impact assessment on wildlife in this locality with increased heavy vehicle movements, including night use of the roads for construction purposes.

d) ensure biosecurity and hygiene protocols are applied.

7. Telecommunications.

Revise the EIS, and Appendix M to ensure:

7.1. recognition that NPWS's current VHF simplex channels and future UHF PSN Trunking services may be indirectly impacted by the project WTG proximity to Yanga SCA. NPWS requests a pathway of adequate reporting and communication if operational issues are detected with NPWS RF links or mobile radio performance post turbine installations, requiring a functional resolution if detection of issues occur.

8. Aviation.

Revise the EIS, and Appendix M to ensure:

8.1. un-certified aerodromes (as helipads) on the parks are considered. Yanga's rotary helipad sites include (a) Bronzewing Drive 34° 26.752' S/143° 48.469' E, and (b) Yanga Homestead 34° 42.91' S/143° 36.576' E. NPWS highlights that temporary aircraft landing facilities, or emergency landing can occur anywhere on Yanga SCA.

8.2. proximity of the closest WTGs to Yanga SCA boundary must be considered and the resulting impacts to low flight and low visibility based aerial operations for both rotary and fixed wing aircraft addressed in detail. Provide a clear indication of the how aerial operations on Yanga SCA will be impacted/influenced by the WTG placement and indicate what area over Yanga SCA will be influence or restricted in operations as a product of the proposed project.

8.3. NPWS is included in the AIA as part of the '*Aerial Firefighting'* (fixed and rotary) and add 'Other Aerial Operations' aerial pest management (rotary), Waterbird monitoring (fixed wing), Pest monitoring (Fixed & rotary), with recognition of the restrictions and likely impacts on these operations that will affect Yanga SCA.

8.4. wind monitoring towers (WMTs) constructed prior to the WTGs will need to be appropriately lit and marked to ensure they are visible to aircraft in accordance with NASF Guideline D and MOS 139 Section 8.110 / 9.30. The details of the WMTs are to be reported to NPWS prior to commencement of installation. Notably four (4) temporary and four (4) permanent WMTs will be installed with a maximum height of 159 m AGL with elevation for at the highest WMT as 69.49 m above mean seal level (AMSL), with an overall height of **228.49 m AMSL** (749.6 ft AMSL).

8.5. safety risk assessments are revised base on the additional information affecting Yanga SCA/ NPWS operations and provide a conclusion on the WTGs and WMTs, address need for obstacle lighting in the maintenance of acceptable levels of safety for NPWS aerial operations (low flight and low visibility).

9. Bushfire.

9.1. In the preparation of the Bush fire Emergency Management and Operations Plan, ensure:

a) consultation with NPWS and consideration of the Murrumbidgee Valley National Park Yanga Precinct Fire Management *Strategy (OEH, 2014)*.

b) no operational restrictions or closure (temporary or otherwise) occurs to NPWS fire trail network on Yanga SCA, this includes immediate egress to Keri Keri Road or the Sturt Highway.

c) ignition risk and mitigation measures associated with the project construction and operation is adequately recognised and mitigated with provision of sufficient on-site water supply and adequate defendable space.

d) fire preparedness and response is addressed in consultation with NPWS Lower Daring Area, and NPWS staff are included in the emergency response scenario & training drills.

e) NPWS Lower Daring Area is included in the emergency response, and notification processes under the plan, where incidents are likely to affect Yanga SCA, or the other parks.

i. notification directed to NPWS Manager, Lower Darling Area via npws.lowerdarling@environment.nsw.gov.au or 03 5021 8941

ii. emergency response directed to NPWS Park Operations West Branch Duty Officer via Ph: 02 8275 1740.

10. Water use and protection of waterways.

Revise the EIS, and Appendix T to ensure:

10.1. adequate consideration of, and assessment of impacts to waterways, wetlands and linked hydrology of the development site to the Lowbidgee Floodplain. Noting that the wetlands on Yanga SCA are listed in the Directory of Important Wetlands in Australia.

10.2. water extraction which involves Abercrombie Creek must be confirmed, and the EIS recognise the water supply infrastructure required for delivery.

10.3. water supply needs for the project must be adequately addressed. Confirm if water access to the Abercrombie West Pipeline is likely, as this extracts stock & domestic water from the existing Murrumbidgee River extraction point at the Yanga Woolshed on Yanga SCA. NPWS is a member of the pipeline group.

10.4. figures currently provided incorrectly identify the Abercrombie West Stock & Domestic Pipeline, which was installed in 2019, current information depicts the now obsolete Abercrombie Chanel system, ensure this is corrected.

10.5. maintenance of fish passage in Abercrombie Creek which is ephemeral and rarely flows but its importance needs to be acknowledged as part of the EIS and flows protected:

11. Sedimentation and erosion

Revise the EIS, and Appendix T to ensure:

11.1. dust is managed, and the CSWMP is linked to the proposed Air Quality and Dust Management Plan when considering Yanga SCA and the issues arising from use of Keri Keri Road. Preventative and management measures need to be applied to mitigate dust impacts, to protect threatened plants on Yanga SCA and prevent smothering. Installation of a dust deposition gauge to monitor dust emissions likely to

affect Yanga SCA as per the *Approved Methods and Guidelines for the Modelling and Assessment of Air Pollutants in New South Wales (NSW EPA, 2022)* is advised.

11.2. diversion banks as proposed consider hydrological data for the site and the floodplain, apply adequate design standards limiting the adverse effect on, or deviation of important water flows to waterways, wetlands or modify delivery of water feeding into important riverine habitats.

11.3. water attributed to de-watering actions on the project development site, or discharge of collected or directed run-off is not to affect natural waterways or Yanga SCA. All discharge is to be adequately treated, with low volumes of water discharged through vegetated areas to encourage infiltration and settlement of entrained sediment. This includes discharge associated from Keri Keri Road.

11.4. erosion and sediment control plan (ESCP) is prepared for Keri Keri Road, with suitable measures applied to effectively mitigate impacts to Yanga SCA. Measures are to limit discharge of sediment laden runoff on to Yanga SCA, propose sediment controls (e.g., sumps and/or sediment basins) to protect water quality, ensure any discharge is at a low, non-erosive velocity.

ATTACHMENT B BCS Detailed Comments for Keri Keri Wind Farm EIS

Flood Risk Management

BCS has reviewed the Flooding and Hydrology Assessment component in Section 6.8 of the EIS (and the Keri Keri Wind Farm Flood Assessment in Appendix P).

Additional consultation and detail are required to assess flood risk.

1. **Further consultation with the local Council and the NSW SES on emergency management related flood impacts of the development is necessary.**

The Keri Keri Wind Farm Flood Assessment suggests that Council and NSW SES 'will have opportunity during EIS exhibition to provide comment, which may be followed by specific consultation if required'. BCS recommends that the proponent be more proactive in consulting with Council and the NSW State Emergency Service (SES) to ensure that emergency management matters are both discussed and supported. This consultation will be necessary to inform a site-specific flood emergency response plan.

Recommendation:

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

2. **The Flood Assessment does not consider the impact of riverine flooding on the project site, but this is inconsistent with recent hydraulic modelling results**

Hydraulic models prepared for The Plains Wind and Solar Farm EISs indicate that breakouts originate from the Murrumbidgee River between Narrandera and Darlington Point during significant flood events. Under the extreme event scenario, these breakouts flow in a south-westerly direction and activate the Abercrombie Creek, which traverses the southern boundary of the project site. BCS considers the risk of riverine flooding on the project site to be relatively minor, however recommends that the proponent consider the impact of riverine flooding in the future, particularly in relation to emergency management.

Recommendation:

2.1. Investigate the potential riverine flood risk to the project site because of breakout flows originating from the Murrumbidgee River during the extreme event scenario, and ensure this risk is addressed in a flood emergency response plan.

3. **The case scenarios need to include more detail to adequately inform the impact of the proposed developments on flood behaviour.**

The Keri Keri Wind Farm Flood Assessment provides a low-resolution overview of the project. The mapping needs to include more detail of the proposed project infrastructure, including ancillary works, in the landscape as the current mapping makes it difficult to determine the impact of the entire project on flood behaviour. BCS recommends that future hydraulic modelling incorporates the detailed design 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.

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.

Biodiversity

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

The candidate list of threatened species, survey effort, suitable habitat and species polygons require review.

4. **Several candidate species have been excluded from the survey effort with inadequate justification will impact the credit obligation.**

The accredited assessor has excluded some candidate species from further survey, which is inconsistent with sections 5.2.2 and 5.2.3 of the BAM.

Only limited information has been provided on why these species credit species were excluded and the justification is no evidence-based (Table 1). In addition, BCS notes that many candidate species have been excluded across the entire project site, rather than from specific vegetation zones, despite the diversity of PCTs and habitats within the project site.

The accredited assessor has excluded PCT 44 from the habitat area to be surveyed and assumed presence of candidate flora species as they state it is degraded as it has a vegetation integrity score of 42.8. BCS considers this vegetation integrity (VI) score to reflect moderate condition.

The accredited assessor only conducted surveys for raptors in bird utilisation survey (BUS) locations (BDAR Table 2-6). In addition, specific targeted surveys for breeding species credit species have not been conducted in accordance with the Threatened Biodiversity Data Collection (TBDC) and the BAM.

Table 1: Species credit species that require review as they were excluded from survey or there was only minimal survey effort.

Species	BDAR reason for exclusion from survey	BCS comment	BCS recommendation
Square-tailed Kite *Lophoictinia isura*	None provided.	The BDAR does not provide a justification for excluding this species and targeted surveys have not been completed. Section 4.2.1.1 of the BDAR also states that 'Woodland habitat has been observed to support raptor activity' which is inconsistent with excluding this species from the surveys.	Conduct targeted surveys during the breeding season or provide additional information to justify excluding this species.
Spotted Harrier *Circus assimilis*	None provided.	The accredited assessor did not complete targeted survey for breeding activity despite the species being present in the area, and numerous unidentified raptor nests having been located.	Conduct targeted surveys during the breeding season or provide additional information to justify excluding this species

Species	BDAR reason for exclusion from survey	BCS comment	BCS recommendation
Little Eagle *Hieraaetus morphnoides*	Included but not surveyed.	The accredited assessor did not complete targeted survey for breeding activity despite the species being present in the area, and numerous unidentified raptor nests having been located. Drawing polygons around stick nests assumes that all stick nests were located and that the eagles will not build new nests. Given the nature of the development this underestimates the potential impact on this species.	Conduct targeted surveys during the breeding season or provide additional information to justify excluding this species
Pink Cockatoo *Lophochroa leadbeateri*	Excluded due to absent TBDC constraints on the subject land.	The BDAR only provides minimal evidence to confirm the lack of habitat constraints for this species. The BAM plot data provided shows that hollow bearing trees and stags exist within the site.	Conduct targeted surveys or provide additional information to justify excluding this species, including hollow bearing tree attributes.
Pink-tailed legless lizard *Aprasia parapulchella*	Excluded due to absent TBDC constraints on the subject land.	The BDAR does not provide any evidence to confirm the lack of habitat constraints for this species.	Conduct targeted surveys or provide additional information to justify excluding this species.
White-bellied Sea-eagle *Haliaeetus leucogaster*	Excluded due to absent TBDC constraints on the subject land.	The BDAR provides minimal evidence to confirm the lack of breeding habitat constraints for this species.	Conduct targeted surveys during the breeding season or provide additional information to justify excluding this species.
Koala *Phascolarctos cinereus*	Excluded due to lack of “Koala use trees”.	BAM Plot 1 lists *Eucalyptus largiflorens* within the plot, which is a 'Koala use tree' listed in Table 9 of Appendix 3 of the Koala (*Phascolarctos cinereus*): Biodiversity Assessment Method Survey Guide.	Conduct targeted surveys or provide additional information to justify excluding this species.
Convolvulus tedmoorei	Exclusion based on vagrancy.	A paucity of records within areas with suitable habitat does not mean the species does not occur. The fact there are minimal records is likely due to a lack of previous survey effort particularly in western parts of NSW that are poorly surveyed.	Conduct a targeted survey to determine the presence or absence of the species, obtain an expert report or assume presence within all associated vegetation zones.

Species	BDAR reason for exclusion from survey	BCS comment	BCS recommendation
Solanum karsense	Exclusion based on vagrancy.	A paucity of records within areas with suitable habitat does not mean the species does not occur. The fact there are minimal records is likely due to a lack of previous survey effort particularly in western parts of NSW that are poorly surveyed.	Conduct a targeted survey to determine the presence or absence of the species, obtain an expert report or assume presence within all associated vegetation zones.
Leptorhynchos orientalis *Swainsona sericea* *Cullen parvum* *Sclerolaena napiformis*	Excluded based on degraded habitat.	The accredited assessor has excluded these four species based on degraded habitat for PCT 44 which is described as low condition in Table 5-4. The condition of PCT 44 is inconsistently described throughout the BDAR with some information suggesting it is low condition (Tables 4-4), while other sections list it as being in moderate condition (Section 4.1.6 and Table 8-1). Table 5-5 of the BDAR suggests that the accredited assessor has surveyed these species but the BDAR does not provide information on the level of survey completed.	Conduct targeted survey across all associated PCTs to determine the presence or absence of the species.
Pilularia novae-hollandiae	Subject Land is not situated east of Deniliquin, NSW.	While the project is not east of Deniliquin, the species has been recorded at other locations northwest of Deniliquin in other South West Renewable Energy Zone (REZ) projects, the locations of which are available on Bionet (See Figure 1, Issue 11).	Given this species is a SAII entity, conduct a targeted survey to determine the presence or absence of the species, obtain an expert report or assume presence within all associated vegetation zones.

Recommendations:

4.1. Update the BDAR to ensure that where suitable habitat is excluded for a given candidate species (and ecosystem species), it is in accordance with the BAM.

4.2. Prior to determination, conduct surveys for candidate species which have been excluded based on the presence/absence of nearby records.

5. Threatened species surveys must be conducted in accordance with section 5.3 of the BAM.

Threatened species surveys must follow section 5.3 of the BAM, which requires surveys to comply with the Department's threatened species survey guides and the TBDC. The BDAR should include sufficient evidence to show that the surveys comply with the relevant guideline and the TBDC, including GPS coordinates and tracks, dates, timing, person hours, weather conditions and photographs. It is unclear whether the accredited assessor has met the survey requirements for any threatened flora and the following fauna species and guilds: *Ardeotis australis* (Australian Bustard), forest owls, microbats, amphibians.

For threatened flora, the BDAR must contain the area of habitat by vegetation zone, how much of this area was covered by transects or BAM-compliant targeted survey during the required months, the area not surveyed and the area in hectares of assumed presence.

Table 1 of Appendix D of the BDAR states *Myotis macropus* and *Nyctophilus spp*. were recorded on site. *Bat Calls of New South Wales* notes that call characteristics within the *Nyctophilus* genus are indistinguishable using standard Anabat/Analook parameters. The guide also states that if the call interval for *Myotis macropus* is between 75-95 ms and the slope is between 300 and 400 OPS, the call cannot be distinguished from the *Nyctophilus* genus. On this basis BCS recommends that the accredited assessor use harp trapping to determine the presence or absence of *Myotis macropus* and *Nyctophilus corbeni* within the subject land. Also, as *Myotis macropus* has been recorded on site it should be included in Table 5-3 of the BDAR.

Recommendations:

5.1. Provide details of threatened flora survey effort (including in all areas mapped as PCT 44) to demonstrate how much of each associated PCT has been surveyed during the required months.

5.2. Provide additional information to confirm threatened species surveys were conducted in accordance with relevant guidelines and TBDC for the following species and guilds: *Ardeotis australis* (Australian Bustard), Forest owls, Microbats, and Amphibians. If additional surveys cannot be undertaken, presence must be assumed or an expert report provided.

5.3. Survey using harp trapping to determine the presence or absence of *Myotis macropus* and *Nyctophilus corbeni* within the subject land.

5.4. Include *Myotis macropus* in Table 5.3 of the BDAR and assess it in accordance with Section 4.1.1 of the Biodiversity Assessment Method Operational Manual - Stage 1.

6. Species polygons for candidate species assessed by area must include all predicted habitats.

The species polygon for *Maireana cheelii* appears to have been restricted to microhabitats and 30 metre buffered records. *Maireana cheelii* is assessed by area so the species polygon should include the individuals detected, in addition to all suitable habitat, in accordance with section 5.2.5 of the BAM and the detail contained within section 4.4.5 of the BAM Operational Manual Stage 2.

Recommendation:

6.1. After completing the survey, revise all species polygons for 'area' species to include all suitable habitat.

7. There would be benefit in completing additional survey to reduce the area of assumed presence for species credit species before project determination.

BCS suggests the accredited assessor completes additional targeted surveys during the response to submissions phase as identified in section 5.2.1.1, with the results to be presented in a revised BDAR before the project is determined.

Recommendation:

7.1. Complete additional targeted survey to reduce the area of assumed presence and include this information in a revised BDAR before the project is determined.

Not all impacts have been included in the assessment and calculations

8. All ancillary infrastructure and indirect impacts should be identified and assessed according to the BAM.

The assessment must include all ancillary infrastructure and impacts that are likely to have direct and indirect impacts requiring specific mitigation measures. Section 2.1.3 of the BDAR lists additional infrastructure that will generally be constructed and used within the subject land such as geotechnical, visual enhancement plantings, fencing, creek crossings, water management, sediment and erosion control structures and access roads. The term 'generally' makes it unclear whether the accredited assessor has assessed the impacts of all the ancillary infrastructure in accordance with the BAM.

Recommendation:

8.1. Identify all ancillary infrastructure and revise the assessment and BAM-C to include all direct and indirect impacts to biodiversity.

9. All impacts associated with the haul route should be identified and assessed according to the BAM.

All impacts along the haul route must be included in the BDAR, including vegetation clearing associated with the pinch points outside of the Murrumbidgee IBRA Subregion. There is only one finalised BAM-C case in BOAMS, case #46348. There should also be a separate case for each subregion of the Haul Route.

Recommendation:

9.1. Revise the assessment to include all impacts to native vegetation along the haul route and include this in separate BAM-C cases.

The Serious and Irreversible Impacts (SAII) assessment is incomplete.

10. Plains-wanderer should be assessed for SAII.

The SAII assessment at section 9.1 suggests that there are no species are at risk of SAII. However, Plains-wanderer which is a SAII entity was recorded within the Project Area and the project will impact on Plains-wanderer habitat.

Recommendation:

10.1. Update section 9.1 to present the impacts to the Plains-wanderer SAII entity.

11. *Pilularia novae-hollandiae* should be surveyed and assessed for SAII.

The accredited assessor has excluded the *Pilularia novae-hollandiae* from the assessment based on the subject land not being east of Deniliquin, NSW. While BCS acknowledges that the TBDC lists this as a constraint, this species has been recorded west of Deniliquin for other developments in the South West REZ (Figure 1).

Recommendation:

11.1. Survey for *Pilularia novae-hollandiae* and complete a SAII assessment.

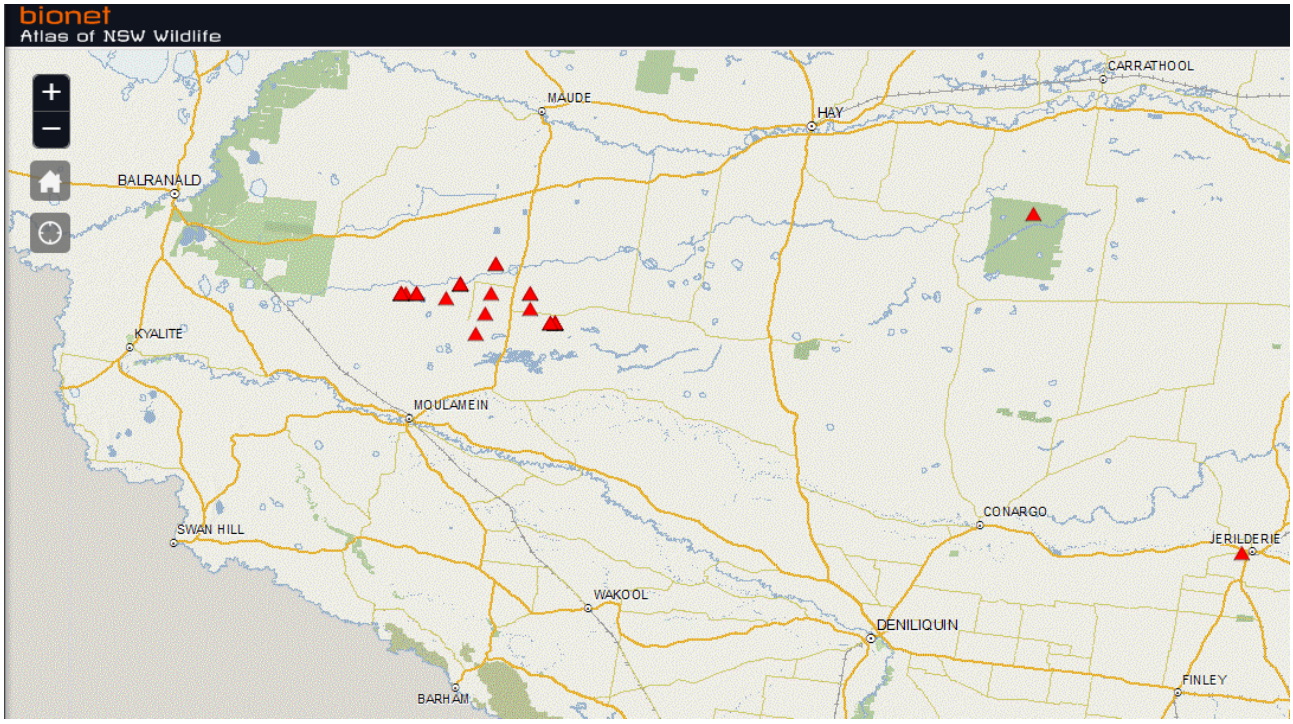

Figure 1: Bionet records for Pilularia novae-hollandiae showing locations to the west of Deniliquin (5 July 2024).

The PCT and vegetation zone identification and mapping need to be revised to correct issues that can affect the biodiversity credit calculation.

12. The accredited assessor needs to provide more information to support the Plant Community Type allocations including adequate BAM plot stratification

The accredited assessor has not completed sufficient floristic sampling or provided evidence of ground-truthing (such as rapid data points) to justify the delineation of PCTs on the subject land and allocating only one vegetation zone or condition state for each PCT. For example, Figure 2 shows the soil and vegetation patterns that have all been mapped as PCT 164 in one condition state. The accredited assessor appears to have no captured the evident differences in soil colour and vegetation in the stratification of BAM plots, however this is difficult for BCS to verify due to inconsistencies in the BAM plot data.

It is necessary for the accredited assessor to transparently report on BAM plots and how they have been used in the assessment to demonstrate that the plots are representative of the PCT, condition and habitats in the impacted areas.

There are 74 points in the BAM plot spatial data, 66 field datasheets replicated in the BDAR. However, section 4.1.2 of the BDAR states that 42 BAM plots were used in the floristic analysis, and Table 2-4 totals 42 plots. The spatial data indicates that 33 plots are in the subject land. There is no information in section 2.2.2.4 or section 4.1.3 about which of the BAM plots the accredited assessor used in the assessment, or how many were outside the development footprint or subject land.

The information in the BAM-C must match the BDAR. The vegetation zone identifiers (‘VZ1 to VZ4) in Table 2-4 do not match the zone numbering in the BAM-C, where VZ1 is 44-Low, VZ2 is 160_Moderate, VZ3 is 164_Moderate and VZ4 is 163_Moderate.

The VI scores in Table 4-11 are very high for PCTs 163 and 164. The BDAR should discuss the effect of sampling during wet years on the VI scores and if the relatively lower score for 'PCT 44_low' is due to timing of sampling or other factors. There is no mention that 'wet' benchmarks were used.

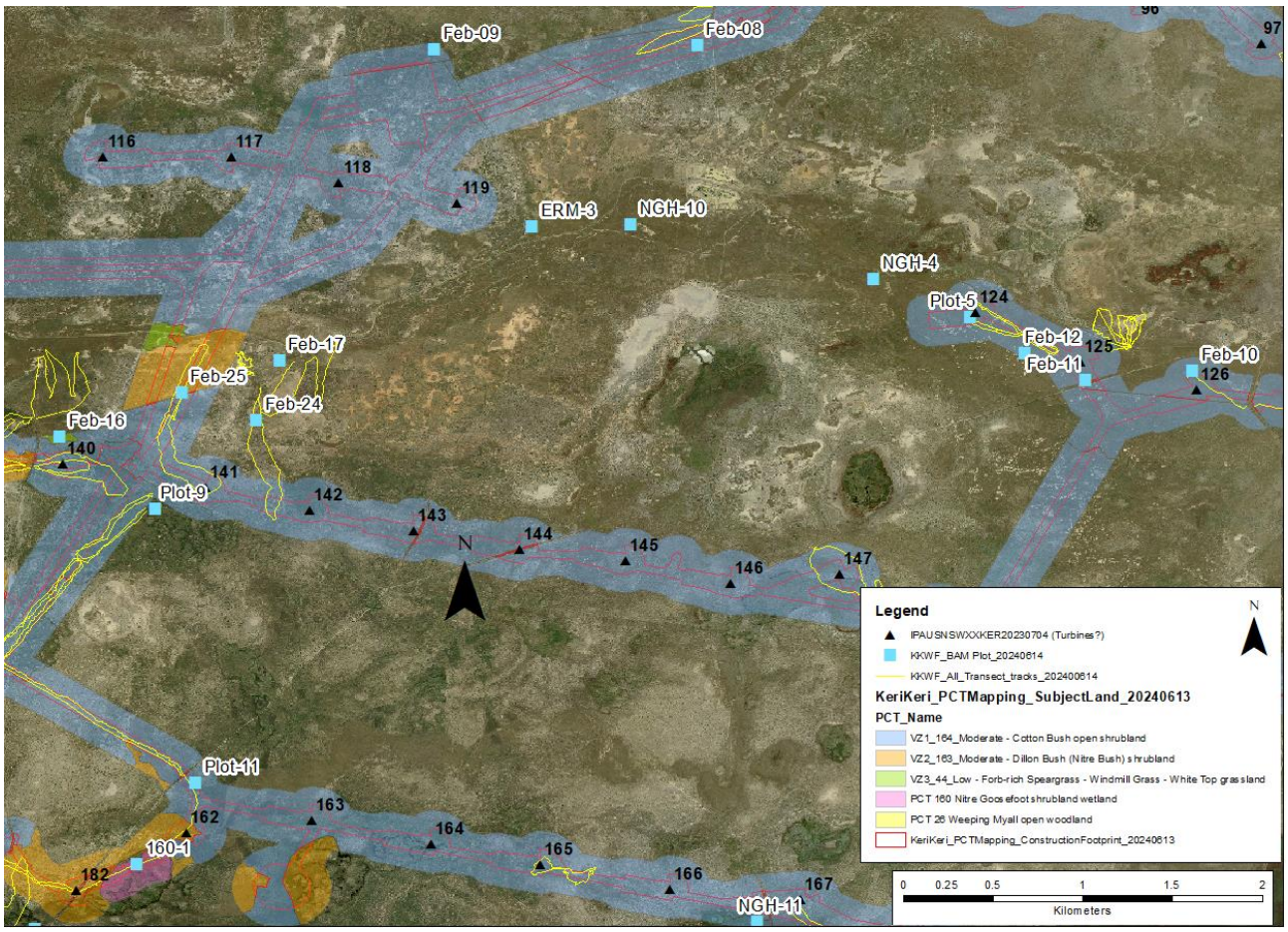

Figure 2: variation in vegetation and edaphic patterns evident on aerial imagery in an area that has been mapped as one vegetation zone (PCT 164 in moderate condition).

Floristic analysis

Section 4.1.3 should address the influence on the results of the CLUSTER analysis of a) exotic species and b) annual species that have responded to rainfall events and higher than average annual rainfall.

Appendix 5 of the Native Vegetation Interim Type Standard[1], which defines scientific processes for native vegetation products in NSW, identifies that annual and ephemeral species are often removed from analyses. This is because a flush of new growth following a rain event or high numbers of ephemeral species due to sampling in different seasons may cause otherwise similar plots to appear different. The Standard also identifies that the influence of localised disturbance as reflected by the presence of weedy taxa may also create noise in native vegetation community classification.

Section 4.1.3 should justify why exotic species have been included in the CLUSTER analysis. While common exotic species are included in BioNet PCT descriptions, non-native species are not indicators of native plant communities and may be localised due to past site management or land

[1] Sivertsen D (2009) *Native Vegetation Interim Type Standard*, Department of Environment, Climate Change and Water NSW, Sydney. URL: https://www.environment.nsw.gov.au/research-and-publications/publications-search/native-vegetation-interim-type-standard

use. Table 4-1 does not indicate which species are exotic and includes relatively ubiquitous weeds such as Paterson's curse (*Echium plantagineum*), Smooth Mustard (*Sisymbrium erysimoides*), Spear Thistle (*Cirsium vulgare*), and Winged Sea Lavender (*Limonium lobatum*) as characteristic determinants of the PCTs.

A clearer pattern may emerge from the CLUSTER analysis if the accredited assessor included all BAM plots to increase the sample size, and exotics and annuals taken out to reduce the noise. The BAM plot identifiers on Charts 4-1 and 4-2 are different to the field datasheets in BDAR Appendix B and the spatial data, making it difficult to verify in which group each plot was classified.

Recommendations:

12.1. Revise the PCT mapping to more accurately reflect vegetation and edaphic patterns evident on aerial imagery.

12.2. Sample additional VI plots to demonstrate that the PCT allocation and vegetation condition across the subject land has been adequately sampled and mapped.

12.3. Consider if the use of 'wet' benchmarks is applicable.

12.4. Update Table 2-4 or include a table in Chapter 4 that shows, for each vegetation zone, the BAM plot identifiers for plots within the development footprint, within the subject land, and any BAM plots outside the subject land that were used in vegetation zone calculations, including the distance to the vegetation zone.

12.5. Revise the BDAR and spatial data to ensure the vegetation zone numbering is consistent with the BAM-C.

12.6. Revise the CLUSTER analysis to ensure the BAM plot identifiers correspond with the field datasheets and spatial data.

12.7. Either revise the floristic analysis to include all BAM plots and take out the exotics and annuals from the CLUSTER analysis, or justify using annual native and weed species in the floristic analysis.

12.8. Provide a more complete discussion of the CLUSTER analysis and results with reference to the influence of the number of samples, seasonal variation, rainfall records, and variation in disturbance, condition, vegetation patterns across the project area, and the NSW PCT classification.

13. Without additional robust evidence of its origins, PCT 44 should be treated as an original vegetation type (not derived).

BCS does not consider it to be appropriate to treat PCT 44 in Table 4-4 as being derived from 163 and 164. The accredited assessor has also inconsistently addressed this in the BDAR – if the areas of PCT 44 were derived, they should be included as separate PCT 163 or 164 'derived' vegetation zones. In the BDAR each of these PCTs has only been allocated a single condition state and single vegetation zone.

Research about the extent and definition of natural grasslands in the Riverina by McDougall (2008)[2] found that areas dominated by native grasses in the southern and eastern Riverina are generally natural grasslands and possibly not derived from chenopod shrublands or Acacia pendula woodland. The Bionet vegetation classification database states that PCT 44 occurs "extensively as an original community" and "can occur as a derived community, predominantly from open Boree/Myall woodland" (PCT 26). Individual sites can be derived from other intergraded woodland communities.

[2] McDougall KL (2008) Evidence for the natural occurrence of treeless grasslands in the Riverina region of south-eastern Australia. *Aust. J. Botany* 56: 461-468.

Given this, large areas of PCT 44 on plains are more likely to be natural grassland and should not be classified as derived components of PCTs 163 and 164. The photos in 4-2 and 4-3 do not appear to represent typical examples of PCT 44 and appear to include *Maireana aphylla*.

It is not clear why the accredited assessor chose the two plots ('Feb01' and 'Feb13') to represent PCT 44 in the floristic analysis and assessment. While close, these plots are not within the mapped construction footprint, and appear to be quite different to the areas of PCT 44 mapped near points 53, 57 and 140 in the spatial dataset 'lPAUSNSWXXKER20230704.shp', which BCS assumes are turbine identifiers. We note that on the field datasheet, NGH-12 was identified as PCT 163 but mapped in spatial data as PCT 44.

Due to inconsistent labelling between the spatial data, BAM-C, field datasheets and CLUSTER analysis, BCS is not able to verify if any of the other plots located in mapped PCT 44 within the larger property boundary are likely to be more representative of PCT 44, or if the accredited assessor has not correctly identified the PCT.

Recommendation:

13.1. Revise the vegetation classification to demonstrate if PCT 44 occurs and include any mapped areas as the original PCT. Separately map different condition states of PCTs 163 and 164 where they exist.

14. The vegetation zone delineations does not represent the variations in vegetation condition that can be seen on the aerial imagery.

Because the accredited assessor has only allocated one vegetation zone for each PCT, the number of VI plots required by section 4.3.4 of the BAM is lower than if the assessor identified and mapped multiple condition states. If the variability of the vegetation zone is not captured via the minimum number of BAM plots (as defined in BAM Table 3), additional plots may be needed to ensure a representative sample is taken for the vegetation zone (BAM 2020 section 4.3.4.2).

The way the vegetation zones have been named is not supported by the VI scores. Vegetation zones #3 (164_moderate) and #4 (163_moderate) in the BAM-C have VI scores of 97.6 and 92.2 respectively. Assigning this vegetation to 'moderate' condition is not appropriate and these zones should be labelled as 'high' or 'excellent' to ensure that any micro-siting into lower condition vegetation and avoidance of higher condition areas will genuinely avoid good condition vegetation and threatened species habitat.

The VI score of vegetation zone #1 in the BAM-C is 42.8, which should be labelled as 'moderate'.

Section 4.1.6 includes a fifth vegetation zone within the 'micro-siting corridor' that the accredited assessor has not entered into the BAM-C. If the vegetation zone and potential area of impact are not included in the BAM-C, then it will not generate a credit liability or be addressed by the development consent so impacts from micro-siting will not have been approved. Additional impacts to native vegetation after project approval will require a project modification.

Recommendations:

14.1. Revise the vegetation zone mapping and descriptors in line with the requirements of the BAM section 4.3.1. Include additional justification if further ground-truthing demonstrates that one vegetation zone adequately represents the variation of each PCT present in the subject land.

14.2. Ensure vegetation zones in high condition are indicated as such in the BDAR, BAM-C, and spatial data.

The proponent needs to include further specific detail to show how they have avoided and minimised biodiversity impacts.

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

Section 7.1.1.2 discusses avoidance of stick nests but does not specifically detail where or how this occurred. Looking at the location of the stick nests in Figure 7.4 of the BDAR it is apparent that some of the stick nests are within 200m and 500m of proposed turbines. However, there is no discussion about how impacts to raptors will be minimised in line with the requirements set out in section 7.2.1(4) of the BAM for the turbines with stick nests within 500m.

Table 7-2 shows impacts from Scoping to Current Layout. It shows that the current layout will disturb two hectares more than the scoping layout. While the difference area is not significant, there is a lack of detail on how the biodiversity impacts have changed between the two layouts. The only biodiversity impacts detailed are for Weeping Myall TEC and Woodland PCTs, both of which occupy a very small portion of the project area and are not being impacted in either layout.

The proponent has not considered modes or technologies that would avoid or minimise impacts on biodiversity values and has also not justified why the proposed mode or technology was selected.

BAM 7.1.2(4) requires the BDAR to demonstrate that the routes have been selected to avoid or minimise impacts on biodiversity values and to justify why the proposed routes were selected. The proposed new track and cable reticulation trenching between some turbine locations does not appear to have been located to maximise the existing track network and avoid native vegetation. For example, in Figure 1.2 new tracks are planned between turbines 84 and 113 and between turbines 45 and 72. However, there are existing tracks close by that are not being used as can be seen circled below in Figure 3. BCS recommends the proponent revisits the proposed location of all tracks to ensure the existing network is used, and co-locating cable reticulation with the existing disturbance.

Recommendations:

15.1. Provide detail for all avoid and minimise measures to be implemented through post-approval Environmental Management Plans (EMPs), in line with the requirements set out in BAM 7.1.2 and 7.2.2(2).

15.2. Document measures to minimise the impacts to raptors at the proposed turbines that are within 500m of recorded stick nests.

15.3. Document the difference in biodiversity impacts between the scoping layout and the layout presented in the EIS.

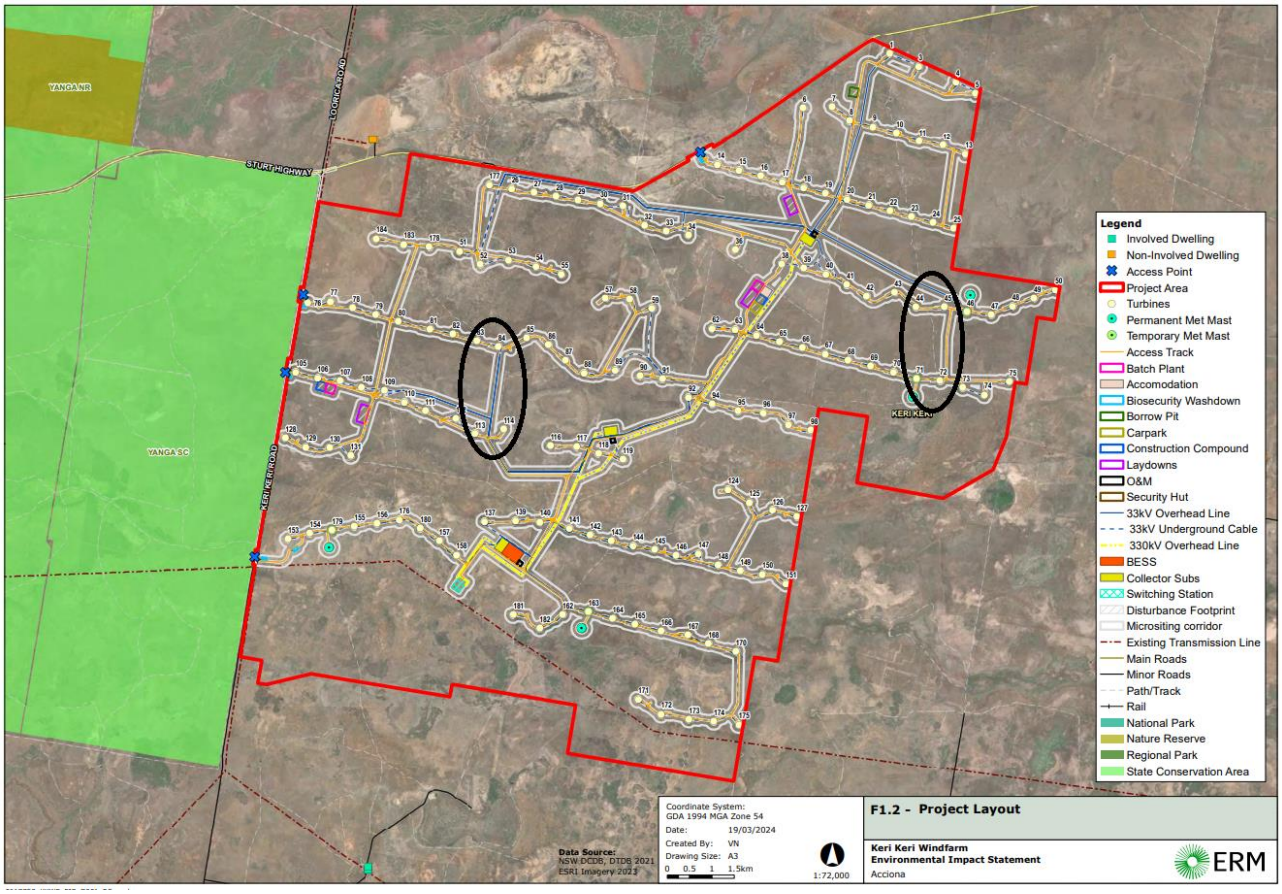

Figure 3: Proposed tracks in proximity to existing tracks mapped in Figure 1.2 of the BDAR.

The accredited assessor needs to review the prescribed and indirect impact assessment for the project operations.

16. More detail is needed to adequately identify and assess prescribed impacts, including human-made structures and habitat connectivity.

BCS questions the assumptions the accredited assessor has used to assess prescribed impact assessment and notes that several statements about threatened species and the habitat value of non-woody native vegetation within the riverine plains have been made without appropriate justification. BCS requests the accredited assessor comprehensively revise this section with reference to current ecological literature and existing species records.

In particular:

- There is no list of threatened entities that may be dependent on or may use habitat features associated with any of the prescribed impacts.
- It is not clear why the accredited assessor has assumed that connectivity is restricted to trees, so the project area and subject land have low connectivity. This assumption has resulted the BAM not being appropriately applied, specifically BAM section 3.1.3 (landscape features) in Table 3-1 and BAM section 6.13 (prescribed impacts) in Table 6-1. Native vegetation without trees can provide habitat for many of the species predicted to occur in the project area.
- The statement in Table 6-1 that creeks and farm dams are unlikely to sustain threatened species populations is inconsistent with existing species records. Human-made dams and waterways and ephemeral creeks provide refuge habitat and resources in these semi-arid riverine plains landscape. For example, the Southern Bell Frog was excluded as a

candidate species, however it has been commonly recorded in the local area using farm dams and channels as refuge.

- While the accredited assessor has identified some threatened fauna such as Plains-wanderer as being at risk of vehicle strike, the assessor has not addressed the requirements of BAM section 8.3.6 1(a-d).

Recommendations:

16.1. Revise the prescribed impacts identification and assessment so that it is in line with the requirements in BAM sections 6 and 8.3, with reference to current ecological knowledge, literature and existing species records.

16.2. Review the assessment to address the connectivity values of naturally open or non-woody native vegetation.

16.3. Revise all aspects of the BDAR where the accredited assessor has assessed connectivity and/or relies on it to justify excluding species from the assessment.

17. The prescribed impacts of wind farm developments needs to be revised revision, and the exclusion of species does not comply with the BAM.

The BDAR includes information relating to identifying prescribed impacts for wind farm developments specified in BAM section 6.1.5 in the 'avoid and minimise' chapter (Section 7), which has resulted in the prescribed impact assessment appearing to be incomplete.

The BDAR also includes the wind turbine strike assessment, in in line with the requirements of BAM section 8.3.5, in Section 7, along with the Bird and Bat Adaptive Management Plan (BBAMP) objectives, which the accredited assessor proposes developing to address the uncertain impacts of turbine strike as per BAM section 8.5.

The accredited assessor has not included a candidate list of protected animals that may use the development site as a flyway or migration route in the prescribed impact section.

Excluding birds in BDAR Table 7-3 due to vagrancy does not comply with the BAM. BAM section 5.2.2(2c) enables the assessor to remove species unlikely to occur on the subject land if the species is a vagrant to the IBRA subregion, and the BAM glossary defines vagrant species as "occasional records of species in NSW that are outside their normal distribution or habitat, including escaped animals and planted specimens". BAM section 5.2.2(2c) requires the assessor to record their reasoning for the determination.

Section 7.3.1.3 of the BDAR justifies excluding these species by providing a general comment that the species were not present at the time of survey despite potentially suitable habitat being present. There is no specific justification for each species. There is also no evidence that these species are outside their normal distribution or habitat, particularly as the assessment has demonstrated that the habitat is present on the subject land.

For example, while the Australian Bustard was not identified during the Bird Utilisation Survey (BUS), BioNet records are scattered across south-western NSW. As noted in Table 7-3, Australian Bustards are regarded as mostly an intra-regional mover, and so they are unlikely to all be vagrants. In addition, Australian Bustards do fly when needing to travel longer distances and are potentially at risk of collision.

The accredited assessor needs to complete a further assessment of the prescribed impacts of turbine strike according to BAM section 8.5 with the impact assessment in Chapter 8. The BBAMP is a stand-alone adaptive management plan, that will be implemented after project approval, so the draft BBAMP should be provided as a separate document appended to the BDAR (see issue 16).

Recommendations:

17.1. Revise the information in section 7 of the BDAR to clearly address the prescribed impact identification requirements in BAM section 6.1.5, the avoid and minimise

considerations in BAM section 7.2.1, and the assessment of the (prescribed) impacts of wind turbine strike in BAM section 8.3.5.

17.2. Revise the prescribed impact assessment to justify excluding protected birds and bats.

17.3. Revise the list of vagrant species to comply with BAM section 5.2.2 and the BAM glossary and revise the assessment to include any species that do not meet the BAM definition of vagrant.

17.4. Prepare a separate BBAMP that is appended to the revised BDAR.

18. More survey effort is required for bird and bat utilisation surveys (BBUS) and survey data must be provided.

While bird surveys were completed between Autumn 2020 and Spring 2022, the number of points surveyed varied, and it is not clear to BCS from the BDAR what the total survey effort was. The bat surveys were only across seven survey nights in Summer 2022 with no at height data recorded, which not in line with the survey requirements.

BCS expects the BBAMP to be based on at least two years of BBUS, across all seasons, including paired at-height data for bats to establish a thorough understanding of the project's potential impacts. This duration is required to reflect the seasonality in the local area, considering the variability of rainfall and its influence on vegetation flowering, coupled with the nomadic and/or migratory nature of many Australian bird and bat species. BCS recommends the additional survey data be collected, analysed and incorporated into the BBAMP prior to project determination.

The BDAR does not include raw data for bird surveys completed as part of the BBUS surveys to date, which means BCS is unable to assess if the collision risk assessment provided in Table 7-11 adequately addresses the at-risk bird species. The accredited assessor should include all results in the BDAR as an appendix and in the digital data package.

Recommendations:

18.1. Conduct two years of pre-construction BBUS, across all seasons and include paired at height data to ensure the BBAMP is supported by sufficient evidence and data.

18.2. Provide the raw data from BBUS results in the revised BDAR and digital data package.

19. The turbine risk assessment, collision modelling, and draft BBAMP need to be revised.

The accredited assessor has completed the BBUS, turbine risk assessment and collision modelling, however it is not clear to BCS how the results of the BBUS have been used to inform the risk assessment. For example, the accredited assessor has not used the results of the BBUS to map any flight paths. It is not clear how the assessor has reliably assigned turbine risk and strike when a key parameter in the matrix (BDAR Table 7-6 and 7-9) is "*migratory or nomadic species habitual flight path*" but no flight paths have been mapped. The BBUS data that the accredited assessor used to inform collision risk and modelling is not included in any form in the BDAR.

While the approach to the Collison Risk Modelling appears to be appropriate, BCS finds it difficult to determine if the species identified as 'high' and 'very high' risk are suitable and appropriate and supported by results of the BBUS to date. The BDAR does not include the survey data used to inform the model so BCS is cannot assess the validity of the modelling.

The risk assessment does not include any of the species identified as 'vagrant' in Table 7-4. As discussed in Issue 17, the way in which the accredited assessor has classified vagrant species is not compliant with the BAM. When present in the area, these species are likely to be at risk of turbine strike and should be included in the risk assessment in Table 7-11. Also, Blue-winged Parrot has been assessed as low risk of collision in Table 7-11 on the basis that it is a granivorous species. Yet this is a long-distance migrant that flies at height while on migration and in open areas away from watercourses. The collision risk assessments need to be reconsidered using existing data and updated to include survey information for the species that have been excluded.

The proponent should complete carcass persistence trials and searcher efficiency trials before construction and operations commence to inform the BBAMP. BCS recommends a search efficiency greater than 70 per cent. Based on previous search efficiency trials seen by BCS this would eliminate human observers as a viable option.

The carcass search area outlined in section 7.4.4.3 is based on Hull and Muir model. That model was developed based on hub heights up to 94 metres and blade lengths up to 56 metres, which is considerably lower and shorter than those proposed at Keri Keri Wind Farm. This means the search area proposed (100 metres for bats and small birds and 100-150 metres for medium to large birds) is unlikely to be large enough. The accredited assessor should review the literature and sufficiently and update the search areas before finalising the BBAMP.

The accredited assessor also needs to provide an appropriate justification for the proposed triggers in Section 7.4.5, based on literature that is relevant to the species and the region. For example, the trigger of five protected or locally abundant species at the same Wind Turbine Generator (WTG) during a 12-month period is likely too high. The proposed trigger requirements should be justified for both threatened and non-threatened species.

The BBAMP is an important tool for monitoring, mitigating and potentially offsetting residual prescribed impacts resulting from turbine strikes. Given this, a more comprehensive draft BBAMP, prepared in consultation with BCS, should be included that justifies outcomes based on the results of the BBUS data and assessment.

Recommendation:

19.1. Revise the draft BBAMP in consultation with BCS, and ensure outcomes based on the results of the BBUS data are fully justified with reference to the supporting information and literature.

The indirect impact assessment requires review.

20. All indirect impacts should be identified and assessed according to the BAM.

The indirect impact assessment in BDAR Table 8-4 needs additional consideration and detail. The likelihood and consequences of the impacts presented in Table 8-4 needs to be revised to be more specific and include the appropriate justification. For example:

b) states the likelihood of reduced viability of adjacent habitats due to edge effects as being very low. However, BCS considers it is highly likely adjacent habitats will have reduced viability due to the considerable soil disturbance for construction (as described in the EIS), which is different to the existing land use, and an increase in vehicle movements from outside the locality.

d) identifies the risk of weed and pathogen spread but provides no detail about the location and species of weeds present, or the consequences of the risk they pose to existing native vegetation and threatened species habitat.

j) the accredited assessor has assessed rubbish dumping due to improper waste management as not applicable, however BCS consider this issue to be likely, particularly around accommodation camps. Construction and operational staff may not be aware that discarding food scraps can provide a food source for feral animals (such as cats, rats and foxes) resulting in increased threat to threatened fauna, including Plains-wanderer. This issue also relates to m) increase in predators and n) increase in pest animal populations.

k) an increase in wood collection is possible if accommodation camps are in the project area, as workers may gather fallen timber for informal campfires. It may be appropriate to include staff education about the value of fallen timber for threatened species habitat and as important components of a Threatened Ecological Community (TEC).

Table 8-4 of the BDAR generally states that residual indirect impacts are unlikely as the proponent will implement the Construction Environmental Management Plan (CEMP). However, without any detail on what and where the CEMP controls are, BCS is unable to determine if the proposed controls are adequate.

Recommendations:

20.1. Identify and assess all indirect impacts of the proposal on native vegetation and habitat during construction and operation in Section 8.2 and Table 8-4 and include the results in Section 11.4.

20.2. Provide details for all measures necessary to mitigate or manage indirect impacts.

Mitigation measures are not specific to the impact, location or affected threatened entities.

21. Mitigation measures need more detail to meet requirements of the BAM section 8.4.

Section 8.4 of the BAM requires that all measures to mitigate and manage impacts are documented in detail in the BDAR. Table 8-7 lacks specific detail for some proposed mitigation and management measures and does not assess the risk and consequence of any residual impacts. These details need to be included in the revised BDAR, and should not be deferred to post-approval management plans (such as the CEMP or Biodiversity Management Plan).

The proposed mitigation and management measures that have been included in the BDAR do not directly link to specific residual impacts or avoid and minimise measures. As a result, it is not clear how these measures could be effective in managing specific risks, such as indirect impacts to Plains-wanderer habitat.

For example, the second measure in Table 8-7 of the BDAR refers to a clearing protocol for protecting 'treed habitat' that will be detailed in the post-approval CEMP. Without detail, BCS is unable to evaluate if the measure will protect native vegetation or habitat for threatened species in areas where clearing occurs, so cannot assess if the calculated credit liability reflects the likely harm to threatened biodiversity.

Mitigation measures in Table 8-7 should also be given a unique identifier to allow each action to be carried through to post-approval plans and be tracked for audit purposes.

Recommendations:

21.1. Revise Table 8-7 to detail the mitigation and management measures that will be implemented through post-approval plans.

21.2. Include a unique identifier for each mitigation measure in Table 8-7 and ensure they correspond with the EIS.

The Matters of National Environmental Significance assessment requires review.

22. A separate and complete MNES assessment should be provided in the BDAR to address the Bilateral assessment requirements.

This project is being assessed under the EPBC Act Assessment Bilateral Policy. As this is a controlled action bilateral assessment project, the proponent needs to provide additional information to allow BCS to confirm that all relevant MNES have been addressed. The NSW Government issued supplementary SEARs for the project outlining the additional assessment requirements, and these have been replicated in the BDAR Table 1-1.

The BDAR currently does not demonstrate that the Australian Government's assessment requirements for impacts to MNES have been adequately addressed. Although Section 1.1.4 and Table 1-1 in the BDAR refers to each required element of the Australian Government DCCEEW Bilateral Assessment, the required MNES information (provided in **Attachment D** to this response) is not readily apparent in some of the referenced sections or has not been provided.

For example:

- Item 4 of Attachment D requires all efforts to avoid and minimise impacts on EPBC Act-listed threatened species and communities to be demonstrated. While Section 7 details some avoidance measures, it does not address all EPBC Act-listed threatened species.
- Item 6 of Attachment D requires any MNES that have not been offset using the BAM and details about how the calculated offsets relate to MNES to be identified. Some of this information is provided for all assessed species, however only Table 10-3 showing the species credit species that require an offset specifically includes EPBC status. There is no other information in Sections 10 or 11 to allow BCS to determine if the assessment has been completed.

Recommendation:

22.1. Provide a section or chapter in the BDAR and specifically address each of the Bilateral assessment requirements detailed in BDAR Section 1.1.4 and Table 1-1 (and **Attachment D** to this response).

Administrative Issues

23. Update the assessment to reflect the linear and site-based nature of the development.

Section 2.1.2 of the BDAR states that the project is a linear development with a 500 metre buffer. The project includes components that are both site-based and linear in nature. Applying the linear 500 metre buffer to all project components does not accurately reflect the native vegetation cover for the site-based components of the project including WTGs, Battery Energy Storage Systems, batch plants, laydowns and accommodation areas. Most of these ancillary facilities are not linear in nature and the proponent should apply a 1500 metre site-based buffer for the landscape assessment for these facilities.

The accredited assessor also needs to include the site-based calculations as part of the total percentage native vegetation for the BAM-C case. For those parts of the project that are linear, such as access tracks and transmission lines, the 500 metre buffer should be applied but the site-based assessment should be retained as one case in the BAM-C (rather than a linear case).

Recommendations:

23.1. Update the landscape assessment buffers to include both site based and linear buffers as appropriate and review the percentage native vegetation categories once complete.

23.2. Update the BAM-C case to be a site based rather than a linear based assessment.

24. Update the BAM-C to be consistent with the BDAR.

Assessors should check that the reports generated by the BAM-C are consistent with the BDAR. Section 5.2.1.2 of the BDAR states that *Myotis macropus* was detected on site and that "three listed species not populated by the BAM-C were detected". The Habitat suitability: Candidate tab of the BAM-C does not include MNES species or species identified as present within the BDAR. EPBC Act listed species must be added to the BAM-C for to allow the Bilateral Assessment.

Recommendation:

24.1. Update the BAM-C to be consistent with the BDAR.

ATTACHMENT C NPWS Detailed Comments for Keri Keri Wind Farm EIS

National Parks and Wildlife Services

The NSW National Parks and Wildlife Service (NPWS) retains a statutory obligation to ensure development proposed adjacent to lands reserved and acquired under the *National Parks and Wildlife Act 1974* (NPW Act) does not adversely affect that land, its management, or the natural and cultural values the park contains. NPWS highlights the close proximity of this development to Yanga State Conservation Area (Yanga SCA) and the connected nature of the Yanga National Park and Yanga Nature Reserve in this locality (collectively referred to as parks).

NPWS also acknowledges as part of this advice that Acciona Energy Australia Global Pty Ltd (Acciona Energy) as the proponent for the Keri Keri Wind Farm (project – SSD 38358962) has separated the wind farm and the Keri Keri Solar Farm (KKSF SSD 4012957) components of the overall energy park development. Comments provided below relate only to the Keri Keri Wind Farm subject to SSD 38358962.

On review of the Keri Keri Wind Farm EIS prepared for Acciona Energy Australia Global Pty Ltd by Environmental Resources Management Australia Pty Ltd (ERM) dated 17 April 2024 and appendices NPWS raises the matters below for consideration.

1. Recognition of Yanga State Conservation Area

The proposed Keri Keri Wind Farm is located adjacent to Yanga SCA, separated only by the unsealed Keri Keri Road as a local road administered by the Murray River Council (council). Keri Keri Road will be accommodating three direct access points to the proposed project. As Yanga SCA and the other parks represent state significant conservation lands, the EIS must ensure a true and consistent representation of the tenure boundaries and clarity on the reservation status of the park in all mapping and figures provided. The boundaries in the EIS and related document does not represent all boundaries, and represents some boundaries inconsistently for example the regional context map as Figure 2 of the Appendix K and its missing Yanga SCA representation.

The location of the four hectare workers accommodation camp in Figure 2.4 – Project Layout Change (other Infrastructure) places the camp in the north-eastern region of the project development site, however section 3.3.75 of the EIS states that the workers accommodation camp will be constructed “in the western region of the Project Area”, so confirmation will be essential, as well as the identification and designation of the primary access point to service the workers accommodation camp.

With inclusion of the workers accommodation camp on the project site NPWS raises concerns around the potential for unauthorised, damaging, or unsafe use of the adjoining parks during the occupation of the workers accommodation camp, due to their proximity and accessibility. Issues experienced previously includes unauthorised recreational hunting, unregistered motorbike use and damage, access by other unregistered motorised vehicles and firewood collection etc.

Recommendations:

Revise the EIS, and relevant appendices to:

1.1. Apply the NPWS Guidelines - *Developments adjacent to National Parks and Wildlife Service lands | NSW Environment and Heritage*[3] (DPIE, 2020) in recognising environmental matters relevant to development adjacent to Yanga SCA.

1.2. Ensure relevant figures in the EIS and supporting technical appendices adequately and consistently display (and reference) Yanga State Conservation Area, Yanga National Park and Yanga Nature Reserve.

[3] NPWS Guidelines - https://www.environment.nsw.gov.au/research-and-publications/publications-search/developments-adjacent-to-national-parks-and-wildlife-service-lands

1.3. Use the NSW SEED data – NSW National Parks and Wildlife Service (NPWS) Estate[4] layers to ensure true and correct representation of land reserved and acquired under the *National Parks and Wildlife Act 1974.*

1.4. Provide an adequate and clearly stated buffer distance between the nearest WTG and the Yanga SCA boundary acknowledging the placement distance and any issues arising from its proximity to Yanga SCA. This is relevant to buffers afforded from WTG 76 and 77, WTG 105 and 106, WTG 128 and 129 and WTG 153 along the western edge of the proposed project.

1.5. Confirm the location of the workers accommodation camp as it relates to the project development site and distance away from Yanga SCA, recognising the designated primary service access point for the camp.

1.6. Consider how unauthorised egress or use of parks will be managed due to the general proximity and accessibility of the lands reserved under the *National Parks and Wildlife Act 1974*. Recognise as part of all future project operational plans that use and access to Yanga SCA, is limited to activities authorised under the adopted *Yanga National Park, Yanga State Conservation Area and Yanga Nature Reserve Plan of Management*[5] (DPIE, 2020).

2. Allow transmission and grid connection infrastructure to be co-located.

On review of the EIS, NPWS requests Acciona Energy consider the prime location of the project and its access to the TransGrid EnergyConnect Project (transmission line) as suitable for consolidation or, colocation of electrical transmission and grid connection infrastructure and consider negotiated access with surrounding renewable projects.

NPWS recommends the proponent negotiate with other renewable resource project proponents on the grid connections. This relates to proposed development to the north of Keri Keri Wind Farm who also retain a critical need to access the grid via the EnergyConnect transmission line. The current restrictions are leading to proponents pushing for infrastructure development on Yanga SCA. As state significant conservation lands this is inappropriate.

Recommendation:

2.1. Acciona Energy Australia Global Pty Ltd and Department of Planning, Housing and Infrastructure (Planning) consider consolidating and co-locating transmission and grid connection infrastructure so undue pressure is not placed on land reserved under the *National Parks and Wildlife Act 1974*.

3. Landscape and visual impact.

NPWS has reviewed the Keri Keri Wind Farm Landscape and Visual Impact Assessment Prepared for Acciona Energy Australia by Moir Landscape Architecture Pty Ltd (MOIR), dated March 2024 (LVIA) as Appendix K to the EIS. NPWS notes that the Willows Picnic Area and Campground was assessed in the LVIA. However, this is not the only high profile visitor precinct located on Yanga SCA or significant viewpoint. NPWS highlights that the Yanga Homestead which offers high vantage points over Yanga SCA and retains a significant historical context.

[4] NSW NPWS Estate SEED layers - https://datasets.seed.nsw.gov.au/dataset/nsw-national-parks-and-wildlife-service-npws-estate3f9e7

[5] Plan of Management - https://www.environment.nsw.gov.au/research-and-publications/publications-search/yanga-national-park-plan-of-management

NPWS notes that due to the extensive flat open landscapes the proposed project will likely be visible over a wider area than assessed. Yanga SCA (and the other parks) hold a significant historical context, which is linked to amenity and landscape, this was not considered as part of the LVIA, nor did it inform the greater regional character assessment as conservation and protection of cultural heritage is not recognised as a legitimate land use.

The EIS states that the project WTGs will have a maximum blade tip height of up to 291.5 metres with supporting electrical reticulation, on-site substations/switchyard and meteorological masts, and operational buildings. All of these will be visible from Yanga SCA, though this was not assessed in the LVIA visual impact assessment. NPWS is concerned around the landscape character impacts associated with the Yanga SCA, from not only a project perspective but also in terms of cumulative impacts.

Although the EIS recognises Yanga SCA as a sensitive land use, the LVIA fails to acknowledge this, with impacts associated with night lighting, especially those attached to ancillary infrastructure, as workers accommodation camp, obstacle lighting on temporary meteorological masts and/or any other permanent lighting.

Recommendations:

Revise the EIS, and Appendix K to:

3.1. Recognise all land reserved and acquired under the NPW Act as a state significant conservation land use, not minimal use as depicted and described in the LVIA.

3.2. Use the *NSW Dark Sky Planning Guidelines*[6] (DPE, 2023) as a guide in designing adequate lighting to avoid excessive light spill into the night sky to protect Yanga SCA night sky values where possible.

3.3. Use the *National Light Pollution Guidelines for Wildlife* [7](DCCEEW, 2023) to ensure adequate design and consideration of the natural (biodiversity) values attributed to Yanga SCA and ensure:

a) aviation hazard lighting on WTGs and meteorological masts (referred to as wind monitoring towers (WMTs) as advised by Civil Aviation Safety Authority (CASA) is appropriately designed and operated.

b) internal project lighting installed at the substations and other buildings for occupation (workers accommodation camp), night work, security and emergency operational purposes are designed to reduce light pollution and excessive light spill on to Yanga SCA.

3.4. Confirm the workers accommodation camp location and design ensuring common areas and car parking are confined to the internal (central) zones to contain or reduce incidence of light spill outside of the confines of the camp.

3.5. Take into consideration the impacts on the visual environment with respect to Yanga SCA as it relates to the zone of visual influence, viewpoints situated in Yanga SCA, not just the Willows Picnic Area and Campground (as VP08), other areas include:

a) Yanga Homestead Station and the visitor precinct

b) NPWS staff accommodation (residential sites) Oakhampton cottage and Oakhampton Irrigation cottage.

[6] Dark Sky Planning Guideline https://www.planning.nsw.gov.au/policy-and-legislation/environment-and-heritage/dark-sky/dark-sky-planning-guideline

[7] National Light Pollution Guideline for Wildlife https://www.dcceew.gov.au/environment/biodiversity/publications/national-light-pollution-guidelines-wildlife

3.6. Assess the shadow flicker on Yanga SCA and effects on the values of Yanga SCA, especially natural (biodiversity) values and Keri Keri Road safety (as used by NPWS staff, Yanga SCA visitors and commercial operators.

4. Noise and vibration.

NPWS has reviewed the Keri Keri Wind Farm Noise and Vibration Assessment prepared for Acciona Energy Australia by ERM, dated 12 April 2024 (NVIA)) as Appendix I to the EIS. The NVIA identifies the Yanga SCA as the closest sensitive receptor in the NVIA. The assessment seems to focus only on the Willow Campground and Picnic Area which is about 11 km away from nearest WTG (as turbine 128). NPWS accepts that the effect of noise on the Willows Campground and Picnic Area will not exceed those set for sensitive residential receivers as 35dB(A).

However, the NVIA did not consider the Willows Homestead (a NPWS building), which is of heritage significance as part of the Yanga Station complex, nor other NPWS staff accommodation (residential sites) such as Oakhampton cottage and Oakhampton Irrigation cottage.

The NVIA recognises potential construction and operational noise of the proposed project will range from 99 to about 116dBA with general associated traffic noise of 60dB(A) on Keri Keri Road. The modelled project noise levels for the WTGs are flagged at 109.2dB(A). Although the NVIA predict no noise impacts to the Willows Campground, it does not consider the actual impacts on the Yanga SCA at the interface of Keri Keri Road. The NVIA cumulative noise assessment also states that no impacts will occur.

Blasting impacts, overpressure and ground vibration are mentioned under section 4.5 and section 8.3 of the NVIA however the proponent has deferred the impact assessment \to a post approval Blasting Plan. This appears inconsistent with the intent of the *Environmental Planning and Assessment Act 1979*. As the Yanga SCA is separated from the project development site only by the Keri Keri Road corridor, NPWS is concerned about the impacts of blasting as applied to the close set WTGs.

Recommendations:

Revise the EIS, and Appendix I to:

4.1. Acknowledge noise levels above 40dB(A) have the potential to impact on wildlife occupying Yanga SCA, this includes critically endangered bird species. NPWS advises noise levels during construction and operation of the proposed project on the Yanga SCA boundary interface is restricted to 40sB(A). If exceedance occurs impacts on biodiversity values of Yanga SCA will need to be assessed in more detail.

4.2. Apply noise limits with a baseline noise limit criterion of 35dB(A) to all NPWS staff accommodation (residential sites) such as Oakhampton cottage and Oakhampton Irrigation cottage.

4.3. Recognise the cultural access and use by the Aboriginal community, commercial tour operators and park-led vehicle tag-along tours, scientific survey and monitoring, and rewilding release as activities on Yanga SCA

4.4. Assess how use and visitor experience will be affected by the proposed project construction and operation.

4.5. Adequately assess blasting as part of the EIS, including impacts to the values (natural and cultural) of the Yanga SCA and in the maintenance of safe access via Keri Keri Road. Noting that a number of project WTGs are located on the immediate boundary of the project development site.

4.6. Provide an acoustic (noise) monitoring program to ensure levels are adhered to, and effects on Yanga SCA can be adequately reported.

5. Traffic and oversized vehicle movement.

NPWS has reviewed the Keri Keri Wind Farm Traffic & Transport Impact Assessment Prepared for: Acciona Energy Australia Global Pty Ltd by The Transport Planning Partnership, dated 16 April 2024 (TTIA) as Appendix J of the EIS.

NPWS is concerned about the wind farm components being delivered to the project development site via the oversized and over mass (OSOM) vehicles along Keri Keri Road and the increased vehicular traffic. NPWS recognises that the intersection improvement works at the Sturt Highway and Keri Keri Road intersection are required to accommodate the OSOM vehicles, which according to the TTIA will not impact or encroach on the boundary of Yanga SCA. The TTIA mentions but provides only limited detail on the turning requirements on Keri Keri Road into the project development site. This means NPWS is unsure if the current road design is fit for purpose and if the displayed encroachment will damage Yanga SCA.

During project construction and operation the proponent will use and maintain four (4) site accesses, one (1) directly from the Sturt Highway and three (3) off Keri Keri Road. The TTIA notes that unsealed roads (as Keri Keri Road and internal trails) will be all weather and maintained for the duration of deliveries. However it does not apply any maintenance standards to Keri Keri Road and, as an unsealed road, its operational surface is only about 5m wide or less, with no posted speed limiting signage, which means it is not clear whether it is fit for purpose.

The TTIA discusses traffic volumes up to 776 a day during peak generation with a typical 636 heavy vehicle traffic movements per day which also includes night-time vehicle movements (between the hours of 10pm-7am). The TTIA does not specify if there will be upgrades or changes to Keri Keri Road.

The TTIA does not indicate if there will be impacts to Yanga SCA, but advises if mitigation measures as set out are applied during construction and operation of the proposed project, the road network can be used without significant adverse impacts to its operation, capacity or safety.

Recommendations:

Revise the EIS, and Appendix J to:

5.1. Ensure improvements works required to the Sturt Highway and Keri Keri Road intersection are completed, and the large area of hardstand on the inside corner of Keri Keri Rd is designed to accommodate the OSOM vehicles and avoid all impacts to Yanga SCA.

5.2. Ensure the Keri Keri Road site entrances (all 3) are fit for purpose and where required ensure they can meet the service turning requirements and capabilities of the OSOM vehicles delivering wind farm components from Keri Keri Road into the project development site, without impacting Yanga SCA.

5.3. Ensure secure, safe and unrestricted traffic flow can be maintained along Keri Keri Road with no impacts to NPWS park management access, Yanga SCA visitors, commercial operators and scientific/research access.

5.4. Ensure the local roads comply with the Unsealed Roads Best Practice Guide 2[8] (ARRB, 2020) with confirmation on all-weather status.

5.5. In consultation with council, set out the preferred speed limits for Keri Keri Road, and ensure signage is introduced to ensure safety.

[8] ARRB Best Practice Guide - https://3003125.fs1.hubspotusercontent-na1.net/hubfs/3003125/ARRB%20Unsealed%20Roads%20Best%20Practice%20Guide_Edition%202.pdf

5.6. Prepare a Construction Traffic Management Plan (CTMP), in consultation with NPWS, that:

a) Specifies maintenance requirements for the duration of project construction on Keri Keri Road.

b) Includes dust suppression during construction, as this forms a critical requirement in the prevent of dust/sediment smothering of threatened and sensitive flora on the interface of Yanga SCA and the Keri Keri Road corridor.

c) Requires a Drivers Code of Conduct that sets out expectations for driver behaviour covering the safety of Yanga SCA visitors, users and NPWS staff in undertaking land management functions utilising Keri Keri Road as critical access to Yanga SCA.

5.7. Include NPWS as an emergency contact, with the NPWS Lower Darling Area via npws.lowerdarling@environment.nsw.gov.au and 03 5021 8941 with emergency notification directed to NPWS Park Operations West Branch Duty Officer via Ph: 02 8275 17406.

6. Biodiversity.

NPWS has reviewed the Keri Keri Wind Farm Biodiversity Development Assessment Report prepared by ERM dated 17 April 2024, as Appendix G to the EIS.

Recommendations:

Revise the EIS and Appendix G to:

6.1. Ensure biodiversity values are adequately considered in the context of Yanga SCA including likely impacts of noise and light pollution on threatened and migratory animals in this locality.

6.2. Consider Yanga SCA when assessing the indirect and cumulative impacts on biodiversity, including impacts on landscape connectivity, migratory species importance and as likely release site for the Plains-wanderer *Pedionomus torquatus*.

6.3. Consider the following threatened species and conservation as significant, as these have been observed in Yanga SCA, proximate to the project and the Keri Keri Road Reserve:

a) Greenhood Orchid *Pterostylis pedina* as it has been observed on Yanga SCA and it is likely to occur on the proposed project development site.

b) Plains-wanderer *Pedionomus torquatus* as this critically endangered species has been detected on Yanga SCA during sound monitoring programs. Although not considered a collision risk due to its ground dwelling nature, construction and operation of the proposed project will likely impact on habitat utilisation and resource use on Yanga SCA.

c) Australian Bustard *Ardeotis australis* as this has been observed on the parks, the proposed project will likely impact on habitat utilisation and resource use.

d) Little Eagle *Hieraatus morphnoides* and ensure avoidance of all existing stick nests, not ‘avoided where possible’.

e) migratory and wetland dependent species making up a known 64 species with 43 of them breeding (including colonial nesting species) across the parks (Waugorah Lake, Tarwillie, The Avenue, Piggery, Yanga Creek wetlands and Nimmie–Caira lignum swamps) this includes Pelicans given the breeding ground is to the north in

Gayini Nimmie-Caira and large numbers migrate to the area especially to Yanga Lake for foraging.

6.4. Include a the Bird and Bat Management Plan, and Biodiversity Management Plan, inc consultation with NPWS, that:

a) Considers pest animal and weed management strategically, using management strategies delivered in collaboration with NPWS as an adjoining land manager.

b) Assesses the vehicle collision risk and impacts on wildlife in this locality with increased heavy vehicle movements, including night use of the roads for construction purposes.

c) Ensures biosecurity and hygiene protocols[9] are applied.

7. Telecommunications.

NPWS has reviewed the Keri Keri Wind Farm EMI Impact Assessment, prepared by Middleton Group Engineering Pty Ltd, dated March 2024 as Appendix M (EMIIA).

NPWS recognises that the telecommunications and electro-magnetic interference assessment was based on the electrical component installed to an Australia Standard in compliance with the Radiocommunications Act 1992, 2020 ICNIRP Health Guidelines and equipment manufacturers guarantee.

Based on the proposed project NPWS highlights that no foreseeable low-power RF link paths or transient mobile transmissions impacts are detected, however information on the proximity of the proposed WTGs is limited.

Recommendations:

Revise the EIS, and Appendix M to:

7.1. Recognise that NPWS's current VHF simplex channels and future UHF PSN Trunking services may be indirectly impacted by the project's proximity to Yanga SCA.

7.2. Ensure that there is a pathway of adequate reporting and communication if operational issues are detected with NPWS RF links or mobile radio performance post turbine installations, requiring a functional resolution if detection of issues occur.

8. Aviation.

NPWS has reviewed the Aviation Impact Assessment Keri Keri Wind Farm prepared by Aviation Projects Pty Ltd for Environmental Resources Australia Pty Ltd, dated February 2024 as Appendix L of the EIS (AIA).

The aim of the AIA is to address and mitigate impacts on aviation operations in this locality in accordance with existing guidance and regulatory material such as the National Airports Safeguarding Framework (NASF) Guideline D: Managing the risk of wind turbine farms as physical obstacles to air navigation 2012. Based on the proposed project WTG layout and blade tip height of 291.5 metres AGL with elevation of the highest WTG, risks to aviation must be considered.

In addition, four (4) temporary and four (4) permanent wind monitoring towers (WMTs) will be installed with a maximum height of 159 metres AGL with elevation at the highest WMT of 69.49 metres above mean seal level (AMSL), with an overall height of 228.49 metres AMSL.

[9] SOS – Hygiene Guidelines - https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Wildlife-management/saving-our-species-hygiene-guidelines-200164.pdf

NPWS notes that the proponent has not consulted with NPWS as part of the AIA preparation. So, as a result NPWS helipads, and aerial low flight operations using both fixed and rotary aircraft have not been considered as part of the initial assessment. NPWS is both a firefighting and land management agency which uses aircraft in a multitude of operational functions. NPWS's policy is that the agency may also respond to fires within 8kms of the boundary of land reserved or acquired under the NPW Act, at the discretion of the Area Manager, if a fire threat is detected which may affect NPWS estate.

Recommendations:

Revise the EIS, and Appendix M to:

8.1. Consider un-certified aerodromes (as helipads) on the parks. Yanga's rotary helipad sites include (a) Bronzewing Drive 34° 26.752' S/143° 48.469' E, and (b) Yanga Homestead 34° 42.91' S/143° 36.576' E. NPWS highlights that temporary aircraft landing facilities, or emergency landing can occur anywhere on Yanga SCA.

8.2. Consider the proximity of the closest WTGs to Yanga SCA boundary and the resulting impacts to low flight and low visibility based aerial operations for both rotary and fixed wing aircraft addressed in detail.

8.3. Provide a clear indication of the how aerial operations on Yanga SCA will be impacted/influenced by the WTG placement and indicate what area over Yanga SCA will be influence or restricted in operations as a product of the proposed project.

8.4. Include NPWS in the AIA as part of the '*Aerial Firefighting'* (fixed and rotary) and add 'Other Aerial Operations' aerial pest management (rotary), Waterbird monitoring (fixed wing), Pest monitoring (Fixed and rotary), with recognition of the restrictions and likely impacts on these operations that will affect Yanga SCA.

8.5. Ensure wind monitoring towers (WMTs) constructed prior to the WTGs areappropriately lit and marked so they are visible to aircraft in accordance with NASF Guideline D and MOS 139 Section 8.110 / 9.30.

8.6. Report the details of the WMTs to NPWS prior to installation.

8.7. Revise the safety risk assessments based on the additional information affecting Yanga SCA/NPWS operations

8.8. Address the need for obstacle lighting in the maintenance of acceptable levels of safety for NPWS aerial operations (low flight and low visibility).

9. Bushfire.

NPWS has reviewed the Keri Keri Wind Farm Bushfire Risk Assessment prepared by ERM for Acciona Energy dated April 2024 as Appendix N (BFA) to the EIS.

The *NSW Rural Fires Act 1997* (RF Act) requires the proponent to ensure that all practicable steps are undertaken to prevent the occurrence and spread of bush fire/fire from the project development site subject to NSW RFS Planning for Bushfire Protection 2019, inclusive of Addendum (2022).

Recommendations:

9.1. Prepare a Bush fire Emergency Management and Operations Plan in consultation with NPWS, that:

a) Considers the Murrumbidgee Valley National Park Yanga Precinct Fire Management *Strategy*[10] *(OEH, 2014)*.

b) Ensures there are no operational restrictions or closure (temporary or otherwise) to NPWS fire trail network on Yanga SCA, including immediate egress to Keri Keri Road or the Sturt Highway.

c) Adequately recognises and miticates the ignition risk and mitigation measures associated with the project construction and operation through providing sufficient on-site water supply and adequate defendable space.

d) Address fire preparedness and response in consultation with NPWS Lower Daring Area

e) Include NPWS staff in the emergency response scenario and training drills.

f) Include the NPWS Lower Daring Area in the emergency response, and notification processes under the plan, where incidents are likely to affect Yanga SCA, or the other parks, ensuring that:

   i. The notification is directed to NPWS Manager, Lower Darling Area via npws.lowerdarling@environment.nsw.gov.au or 03 5021 8941

   ii. The emergency response is directed to NPWS Park Operations West Branch Duty Officer via Ph: 02 8275 1740.

10. Water use and protection of waterways.

NPWS has reviewed the Keri Keri Wind Conceptual Soil and Water Management Plan prepared by ERM for Acciona Energy (no date) as Appendix T of the EIS (CSWMP).

NPWS notes that although the 'worst case' scenario centres around water truck delivery of required water, this appears to be the only option assessed in detail under the EIS Appendix T. While the assessment mentions the potential use of on-site groundwater boreholes as an option, or access to the landholder's water supply, there is not enough detail to allow NPWS to confirm that there is adequate water supply. The farm dams as listed as a potential source on the project development site may no longer be adequate or operational, as many have been replaced by tanks and troughs through the pipeline scheme, so NPWS suggests that this is revised and confirmed.

The project development site raises 68 metres and 72 mast which is low and relatively flat, as is characteristic of the Hay Plains. The site also contains a number of ephemeral creeks and drainage lines with the majority of these draining into the Murrumbidgee River. These are critical to the movement of water, and fish (and other aquatic wildlife) during high water flow events. NPWS notes that diversions and earthworks will occur with little assessment of the development site's hydrology.

Recommendations:

Revise the EIS, and Appendix T to:

10.1. Adequately consider and assess the impacts to waterways, wetlands and linked hydrology of the development site to the Lowbidgee Floodplain, noting that the wetlands on Yanga SCA are listed in the Directory of Important Wetlands in Australia.

[10] Yanga Precinct FMS - https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Parks-reserves-and-protected-areas/Fire-management-strategies/murrumbidgee-valley-national-park-yanga-precinct-fire-management-strategy-120794.pdf

10.2. Confirm the water extraction which involves Abercrombie Creek and recognise the water supply infrastructure required for delivery.

10.3. Adequately address the water supply needs for the project must including confirming if water access to the Abercrombie West Pipeline is likely, as this extracts stock and domestic water from the existing Murrumbidgee River extraction point at the Yanga Woolshed on Yanga SCA.

10.4. Correct the figures which incorrectly identify the Abercrombie West Stock and Domestic Pipeline, which was installed in 2019, and also includes the now obsolete Abercrombie Chanel system.

10.5. Acknowledge the importance of maintaining fish passage in Abercrombie Creek which is ephemeral and rarely flows, and protect its flows

11. Sedimentation and erosion

NPWS has reviewed the Keri Keri Wind Farm Conceptual Soil and Water Management Plan prepared by ERM for Acciona Energy as Appendix T of the EIS (CSWMP).

Recommendations:

Revise the EIS, and Appendix T to:

11.1. Link the CSWMP to the proposed Air Quality and Dust Management Plan when considering Yanga SCA and the issues arising from use of Keri Keri Road.

11.2. Apply preventative and management measures to mitigate dust impacts, to protect threatened plants on Yanga SCA and prevent smothering.

11.3. Ensure a dust deposition gauge is installed to monitor dust emissions likely to affect Yanga SCA as per the *Approved Methods and Guidelines for the Modelling and Assessment of Air Pollutants in New South Wales (NSW EPA, 2022)*.

11.4. Consider hydrological data for the site and the floodplain in relation to the diversion banks and apply adequate design standards limiting the adverse effect on, or deviation of important water flows to waterways, wetlands or modify delivery of water feeding into important riverine habitats.

11.5. Ensure water attributed to de-watering actions on the project development site, or discharge of collected or directed run-off does not affect natural waterways or Yanga SCA.

11.6. Ensure all discharge is adequately treated, with low volumes of water discharged through vegetated areas to encourage infiltration and settlement of entrained sediment. This includes discharge associated from Keri Keri Road.

11.7. Prepare an erosion and sediment control plan (ESCP) for Keri Keri Road, with suitable measures applied to effectively mitigate impacts to Yanga SCA. Measures are to limit discharge of sediment laden runoff on to Yanga SCA, propose sediment controls (e.g., sumps and/or sediment basins) to protect water quality and ensure any discharge is at a low, non-erosive velocity.

ATTACHMENT D BCS Bilateral Assessment information and data requirements

For BCS to complete the assessment of EPBC Act-listed threatened species and communities, the proponent needs to include the following information 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.
4. 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:

1. Demonstrate that field-based survey effort meets the required survey guidelines and, where available, Commonwealth survey guidelines
2. Demonstrate supporting databases have been accessed and used (e.g. NSW BioNet Vegetation Classification, NSW BioNet Threatened Biodiversity Data Collection, NSW BioNet Atlas, Commonwealth Species Profile and Threats Database search results)
3. Demonstrate published peer-reviewed literature have been accessed and used
4. Demonstration local data (if relevant) has been accessed and used
5. Demonstrat all EPBC Act-listed threatened species and communities have been appropriately mapped in accordance with the relevant Commonwealth listing advice
6. Demonstrate that important populations and critical habitat has been considered, as defined in Approved Listing Advice, Approved Conservation Advice and Recovery Action Plans
7. Include 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. Include a discussion, with data and analysis where any species and communities identified by the 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:

1. Demonstrate that 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. Discuss and justify 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:

1. Identify 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. Justify and provide evidence for the predicted level of impact, with reference to the Commonwealth's 'Significant Impact Guidelines 1.1 - Matters of National Environmental Significance'[11] and DPIE's 'Guidance to Assist a Decision- Maker to Determine a Serious and Irreversible Impact'[12]
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:

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

[11] 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.

[12] 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. Include details of threatened species requiring offset and the number of species credits required for impacts to MNES
5. Demonstrate the correct uses the BAM (and BAM-C) 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. Detail the ecological rehabilitation and/or biodiversity conservation actions proposed for offsetting
7. Identify 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:

1. Demonstrate that all relevant Commonwealth guidelines and policy statements that are appliable to the action and listed threatened species and/or communities have been considered, including but not limited to:
    a. International environmental obligations
    b. Recovery Plans
    c. Approved Conservation Advice
    d. Threat Abatement Plans
2. Include 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.