

Our ref: DOC22/975394
Your ref: SSD-23700028

Nestor Tsambos
Senior Environmental Assessment Officer
Planning and Assessment Group
Nestor.Tsambos@dpie.nsw.gov.au

Dear Nestor

Tallawang Solar Farm – Environmental Impact Statement

Thank you for your e-mail dated 27 October 2022 to the Biodiversity, Conservation and Science Directorate (BCS) of the Department of Planning and Environment (DPE) inviting comments on the Environmental Impact Statement (EIS) for the Tallawang Solar Farm.

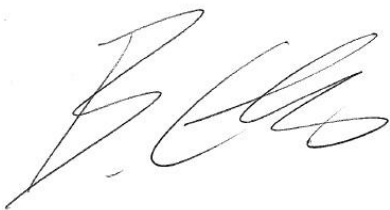
BCS has reviewed the Environmental Impact Statement and notes that the project will result in impacts to the Critically Endangered Ecological Community (CEEC) Box Gum Woodland, which is a candidate Serious and Irreversible Impact (SAIL) entity, this includes:

- 10.96 ha of Box Gum Woodlands; and
- 17.11 ha of Box Gum Derived Native Grasslands

It should be noted that, based on the design of the project, BCS considers that the proponent has taken reasonable steps when locating the solar farm arrays to avoid higher biodiversity value representations of this SAIL entity within the project area.

BCS's biodiversity recommendations are provided in **Attachment A** and detailed comments are provided in **Attachment B**. If you require any further information regarding this matter, please do not hesitate to contact me, via ben.ellis@environment.nsw.gov.au or (02) 8275 1838.

Yours sincerely



Ben Ellis
A/ Principal Project Manager
Biodiversity, Conservation and Science Directorate

17 November 2022

Attachment A – BCS's Recommendations

Attachment B – BCS's Detailed Comments

BCS's recommendations

Tallawang Solar Farm – Environmental Impact Statement

Recommendations

- 1.1 Re-certify the BDAR within 14 days of its submission date, during the Response to Submissions.
- 1.2 Provide a BAM calculator credit report which has been finalised within 14 days of the certification of the BDAR.
- 2.1 Clarify that all project components required for construction and operation of the solar farm have been accounted for in the BDAR.
- 3.1 Review the landscape native vegetation cover assessment to ensure that vegetation within the subject site has been included
- 4.1 Demonstrate that surveys conformed with relevant flora survey guidelines, specifically Tables 1-3 and Section 5.1
- 5.1 Provide justification on the exclusion of the candidate species listed in this response from the unsurveyed habitat within the southern portion of the transmission line alignment.
- 5.2 If appropriate justification cannot be provided, undertake a targeted survey to determine the presence or absence of the species, prepare an expert report or assume presence.
- 6.1 Provide justification that the targeted surveys undertaken for the species detailed in this response were adequate to determine presence/absence.
- 6.2 If appropriate justification cannot be provided, undertake a targeted survey to determine the presence or absence of the species, prepare an expert report or assume presence.
- 7.1 Include all plots in the BAM-C or provide justification in the BDAR as to why they have not been entered.
- 7.2 Provide justification as to why discarded plots were not representative of the site and why duplicating plots was more appropriate
- 8.1 Provide further explanation on the indirect impacts associated with the security fence and if any residual indirect impacts are expected to occur
- 8.2 If residual indirect impacts are expected to occur, this impact should be offset
- 8.3 Provide clarity on the indirect impact zone displayed in Figure 4.2B of the BDAR
- 9.1 Audit species identification and data entry outcomes
- 10.1 Remove statements in relation to SAIL from the BDAR which are the role of the consent authority to determine
- 11.1 That the consent authority notes BCS advice in relation to SAIL impacts to Box Gum Woodland CEEC when considering the adequacy of avoidance and minimisation to biodiversity impacts proposed.

12.1 Provide further detail on the options considered for the transmission line alignment and why the proposed option represents the least impact to biodiversity values

13.1 The proponent note that BCS is supportive of the approach taken to analyse potential conformance of Category 1 with the Box Gum Woodland CEEC

13.2 Further justification with reference to the final determination for Box Gum Woodland should be undertaken to support the minimum condition criterion referenced in this response

14.1 Review the data inconsistencies referenced in this response.

BCS's detailed comments

Tallawang Solar Farm – Environmental Impact Statement

1. The BAM-C and BDAR should be submitted to consent authority within 14 days of certifying the BDAR

In accordance with section 6.15(1) of the *Biodiversity Conservation Act 2016*, 'a biodiversity assessment report cannot be submitted in connection with a relevant application unless the accredited person certifies in the report that the report has been prepared on the basis of the requirements of (and information provided under) the biodiversity assessment method as at a specified date and that date is within 14 days of the date the report is so submitted.'

To meet this requirement a BDAR must be certified, for instance by signing and dating the first page, within 14 days of the relevant submission date of the EIS. In addition, the date of submission of the BDAR must be within 14 days of the date shown on the relevant finalised credit report generated using the BAM-C.

The BDAR for the project was certified 7 July 2022 and the BAM-C generated credit report is dated 8 August 2022, whilst the EIS was exhibited on 28 October 2022.

All of the above need to be certified and finalised within 14 days of submission of the EIS.

Recommendations:

- 1.1 Re-certify the BDAR within 14 days of its submission date, during the Response to Submissions.
- 1.2 Provide a BAM calculator credit report which has been finalised within 14 days of the certification of the BDAR.

2. The BDAR should confirm that all components related to the construction of the project have been accounted for

The EIS for the project details the components which will be needed for the construction and operation of the solar farm, this includes:

- The bushfire requirements for the solar farm (Section 6.13.3.2 of EIS):
 - a 10 metre (m) Asset Protection Zone (APZ) for structures and associated infrastructure,
 - a 10 m setback line around the perimeter of the project along the fence line; and
 - an additional 40m setback around vegetated areas within the project area.
- Access requirements for the solar farm (Section 6.6.2.1 of EIS)
 - primary access to the project area from the Castlereagh Highway involving a local intersection widening to allow for a three-way intersection,
 - four alternate access points along Puggoon road to allow additional access for emergency vehicles; and
 - internal access roads consisting of compacted gravel approximately 6m wide

It is unclear, from review of Section 1.1 of the BDAR, if these project components have been accounted for in impact assessments. All development components which will result in loss of

biodiversity values, must be accounted for in the development footprint and calculated in the total direct impact required for the project.

Recommendation:

- 2.1 Clarify that all project components required for construction and operation of the solar farm have been accounted for in the BDAR.

3. The vegetation cover landscape assessment requires review

Section 1.3A and 1.3B of the BDAR detail the native vegetation extent within a 1500m buffer area.

It is noted that the native vegetation within the subject site has not been mapped within these Figures. All native vegetation, inclusive of that present within the subject site should be included within the landscape native vegetation cover assessment. Section 3.2 of the BAM Operational Manual Stage 1 provides clarification and states that mapping requirements for the landscape vegetation cover class assessment must mirror that for the subject site and must be inclusive of all areas of native vegetation, including areas which are ground cover only

When reviewing the BAM-C for the project, it is noted that a native vegetation cover of 65% has been entered. This is different from what is presented in Table 3.1 of the BDAR (59.4%), potentially this higher figure within the BAM-C may account for the vegetation within the subject site which has not been included in Figures 1.3A and 1.3B.

Section 3.1.2 of the BAM states that a landscape assessment area should be 1500m for development site shaped projects or 500m along a centre line of a linear-shaped project. BCS notes that a 1500m buffer has been included for both the solar farm (development site shaped) and the transmission line (linear shaped). This may have resulted in an overestimate of vegetation cover.

Recommendation:

- 3.1 Review the landscape native vegetation cover assessment to ensure that vegetation within the subject site has been included

4. Provide further details on conformance with threatened flora survey guidelines

Section A.1.2.3 of the BDAR states that, threatened flora targeted surveys were “*generally in accordance with the NSW Guide to Surveying Threatened Plants (OEH 2016a)*”.

It should be noted that this guideline was superseded by the document *Surveying threatened plants and their habitats NSW survey guide for the Biodiversity Assessment Method (2020)*, prior to surveys within the project site occurring.

The BDAR should be updated to demonstrate that targeted surveys undertaken conformed to the minimum requirements of the current threatened flora survey guidelines, specifically Tables 1-3 and Section 5.1.

If surveys have been undertaken which do not conform with the minimum requirements referenced above; further survey, assuming presence or an expert report will be required.

Recommendation:

- 4.1 Demonstrate that surveys conformed with relevant flora survey guidelines, specifically Tables 1-3 and Section 5.1

5. Provide justification for the exclusion of species from unsurveyed potential habitat

Figure 2.1A - B of the BDAR shows the survey effort that was undertaken during Spring (October), Summer (February) and Winter (June and August).

BCS notes that Spring surveys were not undertaken within the southern portion of the transmission line alignment and instead occurred in an area outside of the subject site, in an alternative transmission line alignment (See Figure 1 below). The unsurveyed area contains both derived native grassland and woodland representing PCT 281, totalling approximately 13 hectares cumulatively.

The following candidate species are associated with PCT 281 which have a survey window limited to Spring:

- Ausfeld's Wattle
- Gang-gang Cockatoo
- Pine Donkey Orchid
- Booroolong Frog
- Superb Parrot
- *Prasophyllum* sp. *Wybong*
- Silky Swainson-pea

The list above would be inclusive of species which can occur in derived native grassland and/or woodland. From review of the BAM-C, these species have been excluded on the basis of targeted survey across the entire subject site.

Justification should be provided on the exclusion of the species above from the unsurveyed habitat within the southern portion of the transmission line alignment in accordance with Section 5 of the BAM. If the unsurveyed habitat represents potential habitat for any of the species above a targeted survey to determine the presence or absence of the species', an expert report or assumption of presence will be required.

Recommendations:

- 5.1 Provide justification on the exclusion of the candidate species listed in this response from the unsurveyed habitat within the southern portion of the transmission line alignment.
- 5.2 If appropriate justification cannot be provided, undertake a targeted survey to determine the presence or absence of the species, prepare an expert report or assume presence.

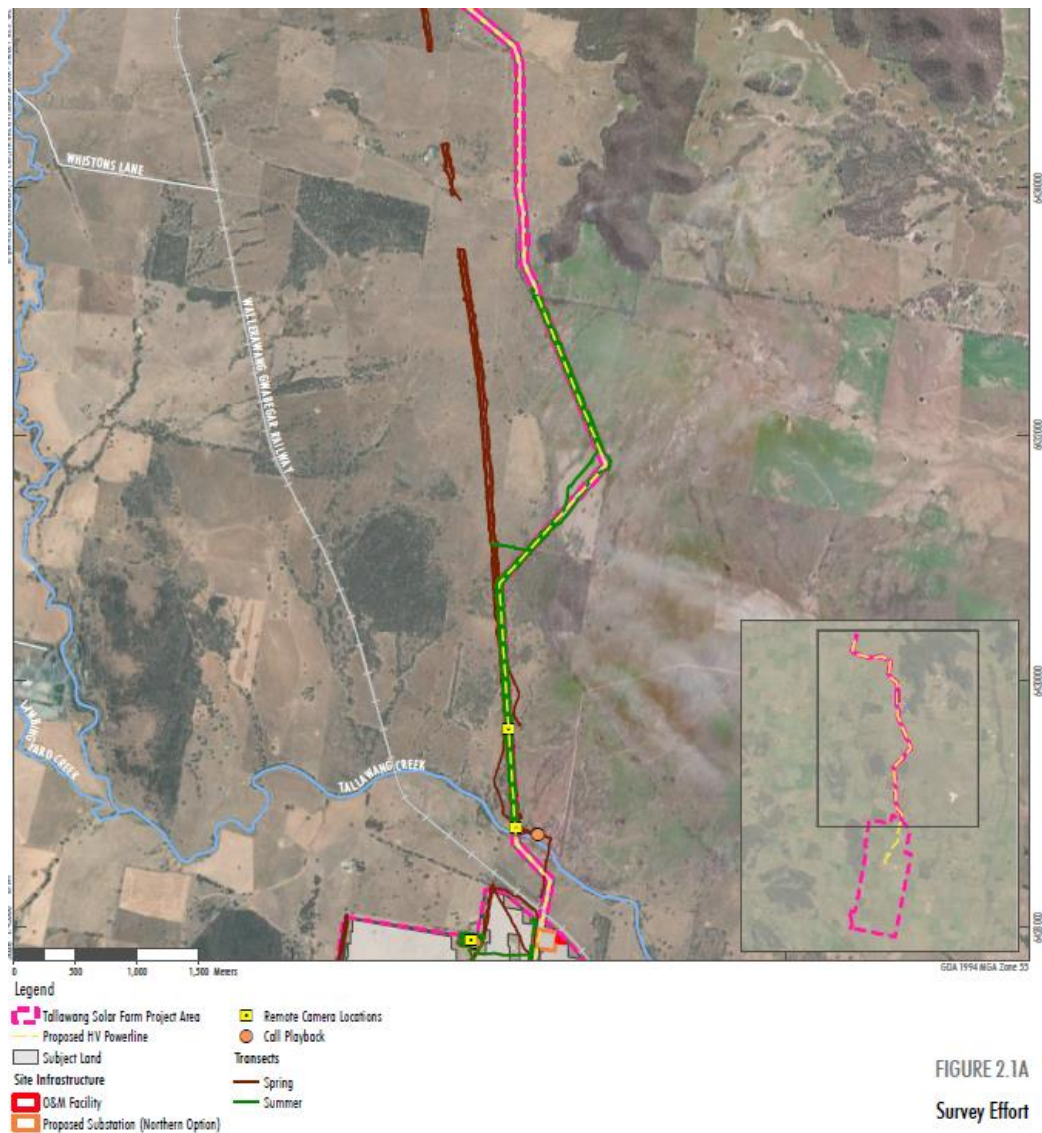


FIGURE 2.1A
Survey Effort

Figure 1 Survey Effort Extract from BDAR

6. Species surveyed for outside of the survey season should be justified

From review of the BAM-C it is noted that the Brush-tailed Phascogale has been excluded as a candidate species for the project site on the basis of targeted survey. Targeted survey for this species involved deploying a camera array for 15 days in August 2021.

The survey window for the Brush-tailed Phascogale is Dec-Jun. No justification has been provided in the BDAR regarding surveying out of season for Brush-tailed Phascogale. The Brush-tailed Phascogale has a semelparous breeding cycle where all mature males of this species will die-off in early winter, reducing the overall population. This has the potential to marginalise the potential detection rate of the species during winter surveys.

In addition, from review of the BAM-C, the Booroolong Frog has also been excluded as a candidate species for the project site on the basis of targeted survey. According to the BDAR, targeted survey for this species involved spotlighting and call playback undertaken during June and August 2021. This species shelters during the months of winter under rocks in riparian habitat and would be unlikely to respond to call-play back outside of their breeding period. This has the potential to significantly marginalise the potential detection rate of the species during winter

surveys. It is noted that the survey month of October was selected for this species in the BAM-C, it is unclear if this is a transcription error between the BDAR and BAM-C.

Further information should be provided to justify that the surveys undertaken for the species above were adequate. If appropriate justification cannot be provided, a targeted survey to determine the presence or absence of the species, an expert report or assumption of presence will be required.

Recommendations:

- 6.1 Provide justification that the targeted surveys undertaken for the species detailed in this response were adequate to determine presence/absence.
- 6.2 If appropriate justification cannot be provided, undertake a targeted survey to determine the presence or absence of the species, prepare an expert report or assume presence.

7. Its is unclear why vegetation plots have been completed but not included in the BAM-C

Section A.1.2.2 states that, *A total of 36 BAM plots were conducted within the Subject Land during the surveys undertaken for this assessment (refer to Figure 2.1), although only a total of eight plots were required to calculate the credit requirement of the Subject Land.*

From reviewing the plot data provided in the BAM-C and the field data sheets it has been identified that only a subset of 8 vegetation plots have been included in the BAM-C and provided to BCS. All survey data should be provided when submitting the BDAR for review.

In addition, it is noted that 3 of the 8 vegetation plots selected for inclusion have been duplicated across the vegetation zones *281_Moderate_solar* and *281_Moderate_ETL*, these plots are:

- P21139_013
- P21139_022
- P21139_036

If additional plots have been completed and they are representative of the relevant vegetation zone they should be entered in the BAM-C. If plots have not been used because they are not within the project footprint, or for any other reason, this should be clearly justified in the BDAR for each plot.

Providing the spatial location and data associated with the 36 BAM plots collected on site will likely assist in providing BCS with further context and understanding behind the decision logic used to exclude and include plots.

Where plots have been duplicated to make up minimum plot numbers, justification must be provided in the BDAR as to why this was the most appropriate method for the zone. Where enough plots exist for a vegetation zone, but plots have been duplicated instead of using all collected plots, adequate justification must be provided as to why the discarded plots were not representative of the site and why duplicating plots was more appropriate. Additionally, adequate justification must be provided for the selection of the plots to be duplicated.

Recommendations:

- 7.1 Include all plots in the BAM-C or provide justification in the BDAR as to why they have not been entered.
- 7.2 Provide justification as to why discarded plots were not representative of the site and why duplicating plots was more appropriate

8. The indirect impacts associated with the project are unclear and should be clarified

Section 5.1.2 of the BDAR states that *“the project is not expected to result in any substantial indirect impacts on the biodiversity values of the adjacent land. One Indirect Impact Zone has been identified within the Subject Land. The indirect impact is related to the construction of a security fence around the solar farm and BESS development area and has been discussed in Section 5.2. The indirect impact zone was assessed using a 5 m buffer off the security fence layout, refer to Figure 4.2.”*

It is unclear from the BDAR if offsetting of residual indirect impacts is being proposed and, if so, how the buffer of the security fence has been accounted for in the BAM-C. If residual indirect impacts are expected to occur, offsetting of this residual impact should be proposed in accordance with Section 8.6 of the BAM.

It is also unclear how the indirect impacts associated with the construction of the security fence relate the indirect impact zone displayed in Figure 4.2B of the BDAR. This Figure shows an indirect impact zone across the entire of the subject site (See Figure 2).

Recommendations:

- 8.1 Provide further explanation on the indirect impacts associated with the security fence and if any residual indirect impacts are expected to occur
- 8.2 If residual indirect impacts are expected to occur, this impact should be offset
- 8.3 Provide clarity on the indirect impact zone displayed in Figure 4.2B of the BDAR

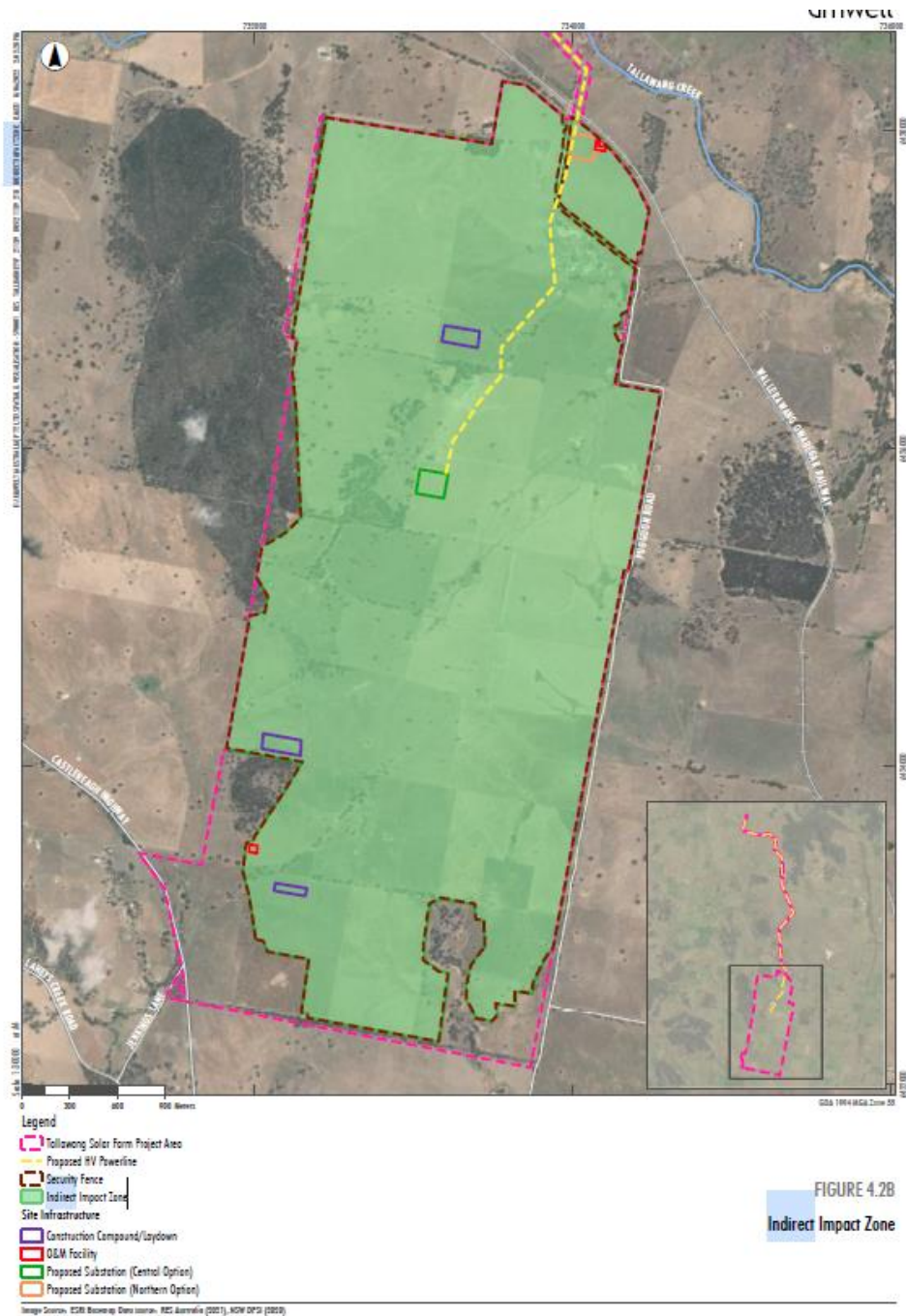


Figure 2 Indirect Impact extract from the BDAR

9. Review of species identification and data entry may be required

From review of the floristic data collected in BAM plot surveys, BCS notes that the species *Themeda quadrivalis* (Grader Grass) was identified in Plot P21139_032 (contributing to 30% cover across the plot).

Detection of this species on the project sites seems unusual, as it is native to South Asia and typically occurs in tropical and sub-tropical environments. In NSW it has been detected a small number of times within the NSW North-Coast Bioregion, (Australian Virtual Herbarium 2022). Potentially this species has been mis-identified from the native species *Themeda triandra* (Kangaroo Grass) or there has been a transcription error when inputting data.

BCS recommend that an audit of species identification and data entry is undertaken to identify potential errors. Species identification and data entry is an important factor contributing to the data collected under the BAM, as many key aspects of the assessment are informed by species identification, including:

- PCT selection and TEC identification
- vegetation condition mapping
- compositional and structural scores for plots
- targeted flora survey

Recommendation:

9.1 Audit species identification and data entry outcomes

10. It is the role of the consent authority to determine whether an impact is Serious and Irreversible

Section 5.3.1 of the BDAR states:

“An impact is to be regarded as serious and irreversible if it is likely to contribute significantly to the risk of a threatened species or ecological community becoming extinct if:

- *It will cause a further decline of the species or ecological community that is currently observed, estimated, inferred, or reasonably suspected to be in a rapid rate of decline, or*
- *It will further reduce the population size of the species or ecological community that is currently observed, estimated, inferred, or reasonably suspected to have a very small population size, or*
- *The impact on the habitat of a species or ecological community that is currently observed, estimated, inferred, or reasonably suspected to have a very limited geographic distribution, or*
- *The impact on a species or ecological community that is unlikely to respond to measures to improve habitat and vegetation integrity and is therefore irreplaceable.*

In relation to the Box-Gum Woodland CEEC, none of the principles above are considered likely to occur as a result of the proposed project.”

It should be noted that it is the role of the consent authority to determine whether an impact will be serious and irreversible.

Recommendation:

10.1 Remove statements in relation to SAI from the BDAR which are the role of the consent authority to determine

11. The consent authority notes that the proponent has undertaken reasonable steps to reduce their impacts to SAI entities

For Box Gum Woodland CEEC, the BDAR states that the project will result in a loss of:

- 10.96 ha of good condition woodlands
- 17.11 ha of derived native grasslands

Box Gum Woodland CEEC is listed as a candidate SAI entity under Principle 1 and Principle 2 in accordance with Section 6.7 of the *Biodiversity Conservation Regulations 2017*. These Principles state:

An impact is to be regarded as serious and irreversible if it is likely to contribute significantly to the risk of a threatened species or ecological community becoming extinct because:

- *Principle 1: it will cause a further decline of the species or ecological community that is currently observed, estimated, inferred or reasonably suspected to be in a rapid rate of decline, or*
- *Principle 2: it will further reduce the population size of the species or ecological community that is currently observed, estimated, inferred or reasonably suspected to have a very small population size.*

The Final Determination for this community lists the clearing of native vegetation as a key threatening process for the CEEC. In addition, there is no minimum clearing threshold identified within relevant databases which could be considered an insignificant decline in this community, therefore any incremental loss in extent could be seen as contributing to the principles above.

Given the above, adequate avoidance of Box Gum Woodland should be a critical factor of consideration for the consent authority.

The consent authority should note that, based on the design of the project, BCS considers that the proponent has taken reasonable steps when locating the solar farm arrays to avoid higher biodiversity value representations of this SAI entity within the project site.

However, further detail and justification should be provided for the transmission line alignment to demonstrate that the option proposed represents the least amount of impact to this SAI entity (See Talking Point 12 below).

Recommendation:

- 11.1 That the consent authority notes BCS advice in relation to SAI impacts to Box Gum Woodland CEEC when considering the adequacy of avoidance and minimisation to biodiversity impacts proposed.

12. Avoidance measures undertaken for the transmission line should be clarified

Figure 4.1A of the BDAR details the options considered for the transmission line alignment, showing three potential considerations.

It is unclear from the Figure if the selected alignment represents the least impact to biodiversity values from the options considered.

It would provide further context if biodiversity value mapping was overlaid in this Figure and if the Figure was supported by a Table comparing the relative impact of the options.

Recommendation:

- 12.1 Provide further detail on the options considered for the transmission line alignment and why the proposed option represents the least impact to biodiversity values

13. Further justification be provided on the minimum criterion applied in land category assessments

Section 2.2 of Appendix G states:

Grasslands across the whole Project Area have experienced an extensive history of cropping, grazing, and pasture improvement activities. Noting that this previous disturbance, alone, does not preclude the presence of the TEC, further analysis has been completed to support classification of this grassland as Category 1-Exempt Land.

The analysis presented below has been completed in consideration of the Final Determination (NSW Scientific Committee 2020) to determine whether these grasslands conform to the CEEC. Where the grasslands do not conform to the CEEC they have been considered and mapped as Category 1-Exempt Land.

In general, BCS support the approach taken to analyse potential conformance of Category 1 land with the Box Gum Woodland CEEC.

However, it is unclear how a minimum metric of “At least 20% of flora species in Vegetation Integrity Plot are characteristic of the CEEC in the Patch and Measure proportion of understorey that is native and exotic in the Patch” was determined and the justification behind this minimum criterion. BCS also notes that some of the plots used to contribute to Category 1 land mapping would represent VI scores which are ≥ 15 , when analysed via the BAM-C.

Further justification with reference to the final determination for Box Gum Woodland should be undertaken to support the minimum metric of “At least 20% of flora species characteristic of the CEEC in the Patch and Measure proportion of understorey that is native and exotic in the Patch” applied to the areas of derived native grassland

Recommendations:

- 13.1 The proponent note that BCS is supportive of the approach taken to analyse potential conformance of Category 1 and with the Box Gum Woodland CEEC
- 13.2 Further justification with reference to the final determination for Box Gum Woodland should be undertaken to support the minimum condition criterion referenced in this response

14. Data inconsistencies should be reviewed

As part of the data audit, BAM-C data was compared to the BAM plot data sheets submitted to BCS.

Inconsistencies were identified between plot data sheets and the data that has been entered into the BAM-C, these inconsistencies are highlighted in Table 1-3 below. The data provided in the plot data sheets must be consistent with the data entered into the BAM-C, any errors in the calculator will have an impact on the final credit liability for the project

Table 1 Data comparisons discrepancies between BAM-C and plot data

PCT zone	BAM plot	Comments
81_Moderate_solar	P21139090	Number of large trees BAM-C = 3 BAM plot import template = 1
318_Moderate_solar	P21139025	Stem class 30-49 should be ticked in BAM-C

Recommendation:

- 14.1 Review the data inconsistencies referenced in this response.