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Via email: natasha.homsey@planning.nsw.gov.au

16 April 2020

Dear Ms Homsey

Subject: Jindera Solar Farm (SSD 9549) - Response to Submissions

Thank you for your email dated 26 March 2020 regarding the Response to Submissions (RTS) for Jindera Solar Farm (SSD 9549), seeking comments from the Biodiversity and Conservation Division (BCD) of the Department of Planning, Industry and Environment (the Department).

We have reviewed the RTS including the Submissions Report and the Amendment Report against the Secretary's Environmental Assessment Requirements (SEARs) provided by the then Department of Planning and Environment to the proponent on 3 September 2018 and the BCD comments about the exhibited Environmental Impact Statement (EIS) provided to Planning and Assessment on 6 November 2019.

Two issues relating to Aboriginal cultural heritage have been resolved. The remaining two issues will be resolved by the applicant entering a care agreement and committing to an unexpected finds protocol.

BCD considers that further work is required on the Biodiversity Development Assessment Report (BDAR) and Amendment Report, for the proponent to meet the Secretary's requirements for biodiversity. Four further actions are recommended in **Attachment A** to address these remaining issues.

We provide a summary of recommended conditions of consent at **Attachment A**. Detailed comments to explain our assessment are provided at **Attachment B**

All plans required as a Condition of Approval that relate to Aboriginal cultural heritage or biodiversity should be developed in consultation with and to the satisfaction of BCD to ensure that issues identified in our EIS response and this submission are adequately addressed.

If you have any questions about this advice, please contact Marcus Wright, Senior Conservation Planning Officer, via rog.southwest@environment.nsw.gov.au or 02 6983 4917.

Yours sincerely



Andrew Fisher

Senior Team Leader Planning

South West Branch

Biodiversity and Conservation Division

Department of Planning, Industry and Environment

ATTACHMENT A – BCD assessment summary for Jindera Solar Farm (SSD 9549) – Response to Submissions

ATTACHMENT B – Detailed comments for Jindera Solar Farm Submissions (SSD 9549) – Response to Submissions

ATTACHMENT A BCD assessment summary for Jindera Solar Farm (SSD 9549) – Response to Submissions

Feedback about the Applicant’s response to the BCD EIS submission is provided below numbered according to Attachment A of our submission dated 6 November 2019.

Issues not listed are taken to be resolved.

Aboriginal cultural heritage (ACH)

BCD Issue 3	<p>Possible retention of stone artefact under a Care Agreement</p> <p>Recommended action:</p> <ul style="list-style-type: none"> <i>Albury and District Local Aboriginal Land Council have sought retention of an edge-ground axe fragment from site 55-6-0117 should it be salvaged from an area of proposed construction works. If this is to occur, a care agreement for the transfer of Aboriginal objects would be sought under Section 85A of the National Parks and Wildlife Act 1974.</i>
Comment on applicant’s response	<p>In the submissions report, additional mitigation measure AH11 is provided in Section 5 Updated Mitigation Measures. AH11 – “<i>The option to salvage and retain artefacts should be made available to RAPs on the provision of a care agreement for the transfer of Aboriginal objects sought under Section 85A of the National Parks and Wildlife Act 1974</i>” (NGH, 2020:101). This is also covered in recommendation 5 of the Addendum ACHAR (NGH, 2020b:20).</p>
Recommendation	<p>Recommended Condition of Approval:</p> <p><i>Should site 55-6-0117 be salvaged during the proposed works, a care agreement under Section 85A of the National Parks and Wildlife Act 1974 must be in place prior to construction to enable this object to be retained by an Aboriginal organisation (Condition 1)</i></p>

BCD Issue 4	<p>Unexpected finds protocol</p> <p>Recommended action:</p> <p>An unexpected finds protocol for Aboriginal cultural heritage, including human remains, must be developed and implemented before construction commences</p>
Comment on applicant’s response	<p>In the submissions report, mitigation measure AH8 has been updated to include the requirements for an unexpected finds protocol and consultation with Department for the development of the Cultural Heritage Management Plan.</p>
Recommendation	<p>Recommended Condition of Approval:</p> <p>An unexpected finds protocol is to be developed prior to construction as part of the post-approval Cultural Heritage Management Plan. This is to include the following:</p>

	<p><i>If any Aboriginal object is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the proponent must:</i></p> <ol style="list-style-type: none"> <i>1. Not further harm the object</i> <i>2. Immediately cease all work at the particular location</i> <i>3. Secure the area to avoid further harm to the Aboriginal object</i> <i>4. Notify the Department of Planning, Industry and Environment as soon as practical on 131555, providing any details of the Aboriginal object and its location</i> <i>5. Not recommence any work at the particular location unless authorised in writing by the Department of Planning, Industry and Environment,</i> <p><i>If human skeletal remains are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and contact made with NSW Police and the Department of Planning, Industry and Environment.</i></p> <p>(Condition 2)</p>
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Biodiversity

<p><i>BCD Issue 5</i></p>	<p><u>The BAM (Section 6) has not been applied correctly</u></p> <p>The assessment for Section 6 of the BAM under-represents habitat suitability and the offset requirement.</p> <p>Recommended actions:</p> <p><i>Revise the BAM calculator and BDAR to ensure that the assessment of biodiversity impacts and offset obligation include all zones on the development site, as per Section 6 of the BAM.</i></p> <p><i>Update the EIS to reflect the results of the revised BDAR.</i></p>
<p>Comment on applicant's response</p>	<p>The applicant has adequately demonstrated that most of zone 10 was category 1 exempt regulated land.</p> <p>The applicant improved the survey effort and assumed presence of new threatened species.</p> <p>The applicant relied on an updated version of the BAM Credit Calculator to predict the presence of threatened species associated with PCT 360 and to inform assessment of habitat suitability.</p> <p>The applicant did not adjust the BAM Credit Calculator beyond offsetting for direct impacts.</p> <p>The BAM Credit Calculation presented provides an offset for the direct impact of clearing in the context of the Biodiversity Offset Scheme.</p> <p>However, it does not take into account indirect impacts such as disrupted connectivity and increased isolation of populations of threatened species, prescribed impacts on the movement of species across the development site, nor the potential for the proposed development to cause serious and irreversible impacts to the candidate TEC Box-Gum Woodland (PCT 277).</p>
<p>Recommendation</p>	<p>Recommended action:</p>

	The proponent be required to adequately assess and mitigate the potential for indirect and cumulative impacts of the proposed development.
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BCD Issue 6	<p>Impact Assessments do not provide sufficient evidence to support the findings related to prescribed impacts, risk of SAIL on the candidate TEC, or EPBC matters</p> <p>Recommended actions:</p> <ul style="list-style-type: none"> • <i>Revise the BDAR to consider all the potential direct and indirect impacts of site management actions detailed in the EIS, including the range of assessments (SAIL, direct and indirect impacts, prescribed impacts, and EPBC Matters)</i>
Comment on applicant's response	<p>Some measures described in the EIS that potentially mitigate impacts to native vegetation or habitat have been included in the BDAR and should inform conditions of consent should it be granted.</p> <p><u>Prescribed impacts</u></p> <p>(Attachment B, Biodiversity, comment 8)</p> <p>Recommended action was that the applicant improve the assessment of indirect impacts on the connectivity of populations of threatened species. We recommended that the impacts prescribed by cl.6.1 of the <i>Biodiversity Conservation Regulation 2017</i> should guide that assessment. This remains largely undone in the revised BDAR.</p> <p><u>EPBC matters</u></p> <p>(Attachment B, Biodiversity, comment 9)</p> <p>Recommended action was that the applicant either provide more evidence regarding the impact of the proposal on the EPBC listed EEC (Box Gum Woodland PCT 277) or notify the Australian Government Department of Environment. The overall impact of the proposed development on habitat with the potential to be the EPBC-listed EEC, and on EPBC listed species known to, or likely to occur at the site, is no better understood than it was in the original BDAR. The cumulative loss of hollows across the wider landscape, and the impacts on connectivity and movement of species are examples. The precautionary approach is to refer the matter to the Australian Government Department of Environment.</p> <p><u>Serious and irreversible impacts</u></p> <p>(Attachment B, Biodiversity, comment 10)</p> <p>Recommended action was that the assessment should include indirect and prescribed impacts, scattered paddock trees associated with PCT 277 to be cleared (34 trees), and all vegetation associated with PCT 277 whether cleared or avoided. In addressing the matters prescribed by paragraph 10.2.2.1 of the BAM, the applicant has underestimated the indirect impacts on the SAIL candidate TEC (PCT 277) that has been avoided, and has not sufficiently considered the cumulative effect of clearing the 34 scattered paddock trees associated with the PCT. More clearing of PCT 277 is proposed in the revised BDAR.</p>

	<p>We consider that the proposed development will increase the rate of decline already observed for the SAIL candidate TEC (SAIL Principle One). We also consider that the proposed development will make the SAIL candidate TEC more fragmented and isolated at a range of spatial scales, causing it to degrade further (SAIL Principle Two). We consider these effects to be exacerbated by other solar farms currently proposed in the Greater Hume Shire which have a similar effect on the SAIL candidate TEC. The cumulative effects of these proposals on Box Gum Woodland PCT 277 need to be adequately considered.</p>
<p>Recommendation</p>	<p>Recommended actions:</p> <ul style="list-style-type: none"> • The proponent be required to provide an adequate assessment of indirect impacts, including the impacts prescribed by cl.6.1 of the <i>Biodiversity Conservation Regulation 2017</i>, especially 6.1.1(b), (c) and (f) and including the loss of hollows across the development site. • The proponent be required to refer the proposed development and potential impact on EPBC listed Box Gum Woodland to the Australian Government Department of Environment. • The proponent be required to provide an adequate assessment of the impacts of the proposed development on the SAIL candidate box-gum woodland TEC (PCT 277), including indirect and cumulative impacts. This should include increased mitigation measures that may reduce the likelihood of impact. <p>Recommended Condition of Approval:</p> <ul style="list-style-type: none"> • A Biodiversity Management Plan must be prepared in consultation with and to the satisfaction of BCD prior to commencement of works (Condition 3).

Confirmation of statements of fact

The applicant has misrepresented the advice of the BAM Support Team provided 7 November 2019 as described at paragraph 3.2.4 of the Submissions Report.

The Biodiversity and Conservation Division is not part of the Department of Primary Industries (as referred to on Table 3-1 and elsewhere in the Submissions Report), but rather the Department of Planning, Industry and Environment.

All other detail is assumed to be factual.

Summary of Conditions recommended by BCD

1. The applicant enters a care agreement for the transfer of Aboriginal objects should site 55-6-0117 be retained by an Aboriginal organisation.
2. An unexpected finds protocol is to be developed prior to construction as part of the post-approval Cultural Heritage Management Plan
3. A Biodiversity Management Plan is to be prepared and approved prior to works commencing.

ATTACHMENT B Detailed comments for Jindera Solar Farm (SSD 9549) – Response to Submissions

Aboriginal cultural heritage

In our correspondence dated 6 November 2019, the Department identified four issues in relation to Aboriginal cultural heritage (ACH) assessment for Jindera Solar Farm EIS. Issues 1 and 2 were to be addressed pre-determination. Issues 3 and 4 could be completed post-determination but had to be completed pre-construction.

The Department has assessed that issues 1 and 2 have been addressed with the additional information received from the response to submissions.

There is a commitment to complete issues 3 and 4 post-determination and pre-construction in the safeguards and mitigation measures of the 'Submissions Report Jindera Solar Farm' (NGH, 2020:100-101).

A summary of how the issues have been addressed in the response to submissions is as follows:

Issue 1 - The Aboriginal Cultural Heritage assessment for works within the Jindera substation lot had not been completed

The Department recommended the results of the assessment including the proposed management of any ACH identified in accordance with the SEARs is to be provided to the BCD for comment.

As described in the Submissions Report, NGH has prepared a report 'Addendum Aboriginal Cultural Heritage Assessment Jindera Solar Farm' (March 2020b) which covered assessment of the Jindera substation lot (Lot 1 DP 588720) and two access points into the solar farm project. The Registered Aboriginal Parties (RAPs) from the EIS were informed of the updated design changes (NGH, 2020b:6).

Field assessment was undertaken on 20 January 2020 by an archaeologist and representative of the RAPs for the project. The result of the assessment of the substation lot and additional areas was that there were no Aboriginal objects or sites identified and no landforms of archaeological sensitivity. The report noted that based on land use history, disturbance, soil and results of the field survey, that subsurface testing was not warranted (2020b:12).

The draft addendum report was provided to the RAPs for a minimum 28-day comment period in accordance with the consultation requirements. No comments were received, and the report was finalised (2020b:6-7). As a result, no further assessment was recommended in areas covered by the addendum report.

No additional mitigation measures were proposed beyond those noted in the original Aboriginal cultural heritage assessment report from August 2019.

We are satisfied that Issue 1 has been addressed through the preparation of the Addendum report.

Issue 2 - The location of artefact site Jindera 488942 (site 55-6-0117) was recorded incorrectly in AHIMS

The Department noted that maps in the Aboriginal Cultural Heritage Assessment Report (NGH, 2019) show this site is within the project area. The coordinates on AHIMS place the site several kilometres to the north of the project area. The proponent is required to notify AHIMS to update the site coordinates in line with the results of the field assessment.

In the Submissions Report the applicant stated they contacted AHIMS on 12 December 2019 and requested that they update the site card for 55-6-0117. NGH received confirmation on 31 January 2020 that the site card had been updated. The Department confirms the coordinates of the site have been updated in AHIMS.

We are satisfied that Issue 2 has been addressed.

Issue 3 - Possible retention of stone artefact under a Care Agreement

The Aboriginal cultural heritage assessment report prepared for the EIS (NGH 2019) noted that Albury and District Local Aboriginal Land Council sought retention of an edge-ground axe fragment from site 55-6-0117 should it be salvaged from an area of proposed construction works. The Department noted that if this is to occur, a care agreement for the transfer of Aboriginal objects would need to be sought under ss.85A of the *National Parks and Wildlife Act 1974*.

In the Submissions Report, additional mitigation measure AH11 is provided in Section 5 Updated Mitigation Measures. AH11 – “*The option to salvage and retain artefacts should be made available to RAPs on the provision of a care agreement for the transfer of Aboriginal objects sought under Section 85A of the National Parks and Wildlife Act 1974*” (NGH, 2020:101). This is also covered in recommendation 5 of the Addendum ACHAR (NGH, 2020b:20).

There is a commitment in the reporting regarding Issue 3, that a care agreement for the transfer of Aboriginal objects be developed should site 55-6-0117 be retained by an Aboriginal organisation.

Issue 4 - Unexpected finds protocol

The Department recommended that an unexpected finds protocol for Aboriginal cultural heritage, including human remains, be developed and implemented before construction begins.

Response to submissions - In the submissions report, mitigation measure AH8 has been updated to include the requirements for an unexpected finds protocol and consultation with Department for the development of the Cultural Heritage Management Plan.

There is a commitment in the reporting in relation to Issue 4, that an unexpected finds protocol be developed as part of the Cultural Heritage Management Plan post-approval.

Biodiversity

By relying on the Biodiversity Development Assessment Report (BDAR) provided as part of the EIS on 10 October 2019, our initial response dated 6 November 2019 was that the EIS did not meet the Secretary’s requirements for biodiversity. We consider the revised BDAR and Amendment Report to also not meet the Secretary’s requirements for biodiversity.

Specific comments on how the recommended actions have been taken by the applicant are as follows:

Biodiversity Development Assessment Report

1. Data provision

Data to support the revised BDAR have not been supplied.

2. Inconsistent numbering

Corrected in revised BDAR.

3. Amend Table 3.3 to correct PCT

Revised BDAR correctly identifies zone 8 as PCT 360.

4. Zone 6 information

BAM Credit Calculator now matches that information presented in the revised BDAR. We note that the vegetation survey effort in zone 6 was enhanced.

5. Zone 10 assessment

We note the correspondence at Appendix J of the revised BDAR. In describing its method to identify category 1 exempt regulated land on the development site, the applicant correctly relies upon ss.60H of the *Local Land Services Act 2013* (LLS Act).

The applicant describes the method used to determine category 1 exempt regulated land. The applicant has generated a draft map of category 1 and category 2 land, but that map has not been provided consistent with Appendix 10 of the BAM.

Where the applicant has doubt after considering the data sources listed in Appendix J, or where those sources were conflicting, the applicant relied on historical imagery to determine current and historical land use as a kind of surrogate for the presence of native vegetation. However, land use, be it historic or current, is not a consideration of the definition at ss.60H of the LLS Act and is not evidence that native vegetation is lacking.

Although it is reasonable to suggest that historic land use may be a factor in causing or maintaining the absence of native vegetation, the applicant must establish that the subject land was cleared of native vegetation at 1 January 1990. Land use, including constant agricultural use, is not a surrogate for that.

Where the applicant has doubt, or where the evidence is conflicting, we do not agree that land use is evidence that the subject land has been cleared of native vegetation since 1 January 1990. The precautionary approach is to assume that the subject land is:

- low conservation value grassland,
- low conservation value groundcover (not being grassland),
- category 2 regulated land, or
- part of a plant community type (PCT).

BCD would have expected the applicant to demonstrate the subject land is low conservation value grassland consistent with ss.60H(2)(a) of the LLS Act, or that the subject land meets the definition cl.109 of the *Local Land Services Regulation 2017* with respect to ss.60h(2)(c) of the LLS Act being that the land only contains low conservation value groundcover (not being grassland).

The correspondence at Appendix J dated 20 February 2020 includes a series of aerial images showing the extent of native vegetation on the subject land dating to 1990. We consider this as evidence that the majority of zone 10 is also category 1 exempt regulated land. As such it can be disregarded from the BAM, but not from assessment of prescribed impacts.

We are satisfied that criteria used in Table 1 of that correspondence relies on the presence of native vegetation since 1 January 1990 to determine the extent of category 2 regulated land. Those criteria being land where native vegetation is present since 1 January 1990, where native vegetation is not present since 1 January 1990, where native vegetation is grazed or protected, or where the land is otherwise mapped as category 2 regulated land by the Native Vegetation Regulatory Map.

We are satisfied that land deemed to be category 1 exempt regulated land by this method can be disregarded from further assessment in the BAM. However, this does not negate the need to include zone 10 in any assessment of impacts prescribed by cl.6.1 of the *Biodiversity Conservation Regulation 2017*. The assessor should also consider zone 10 when deciding to exclude threatened species based on low habitat suitability according to Paragraph 6.4 of the BAM.

We are satisfied that the native vegetation associated with category 2 regulated land on the development site meets the definitions of scattered paddock trees established by Appendix 1 of the BAM.

We concur that none of the subject land is excluded land.

We note that despite providing this evidence that parts of zone 10 are category 1 (exempt) land, the assessment of impacts prescribed by ss.4.2.9-11 inclusive should consider the whole development site as part of the mosaic of habitats across the landscape.

The revised BDAR **does not** provide a more complete assessment of ss.4.2.1.9-11 inclusive, including s.9.2.1.6 of the BAM to demonstrate that infrastructure on zone 10 will not hinder the local and wider movement of threatened species between populations.

ss.4.2.1.9 of the BAM requires the assessor to identify the connectivity of different areas of habitat that may facilitate the movement of threatened species across their range and identify these on the Location Map. This work should include scattered paddock trees and category 2 regulated land associated with zone 10.

We are **not satisfied** that the revised BDAR establishes the focal populations of threatened species, their patches of habitat, nor the size or location of source populations, nor the distances between them, both on and off the development site. Examples include the Squirrel Glider (*Petaurus norfolcensis*) and the Flame Robin (*Petroica phoenicea*). Without this information it is not possible to assess the impact of the proposal on the connectivity of threatened species consistent with ss.4.2.1.9 of the BAM. Similar information is also lacking for other threatened species including those assumed to occur on the subject land including the Southern Bell Frog (*Litoria raniformis*).

ss.4.2.1.10 of the BAM requires the assessor to consider impacts of the development on the connectivity of different forms of habitat, and that this consideration be consistent with ss.9.2.1.6(a) to (d) inclusive of the BAM relating to movement of threatened species that maintains their life cycle.

We are **not satisfied** that either version of the BDAR adequately assesses the impact of the proposed development on the connectivity of different forms of habitat because basic information relating to focal populations and source populations of threatened species is lacking. An assessment of any movement which maintains the life cycle of threatened species is not possible without this information.

ss.4.2.1.11 of the BAM requires the assessor to identify and map the flyways for migratory species that pass over the subject land. No information relating to flyways has been provided in either version of the BDAR. At least two migratory species (Fork-tailed Swift *Apus pacificus* and the White-throated Needletail *Hirundapus caudacutus*) are known to have flyways over the subject land.

In the absence of information to the contrary, the precautionary approach is that the consent authority should assume the proposed development will harm the connectivity of different areas of habitat across the landscape that intersect with the subject land. We therefore recommend that the proponent be required to adequately assess and mitigate the potential for indirect and cumulative impacts of the proposed development.

In the absence of an adequate assessment of indirect impacts, the consent authority has the discretion to increase the number of biodiversity credits to be retired (s7.13(4) BC Act).

6. Entering all zones in BAM calculator

The original list of threatened species did not include species associated with PCT 360. The most reliable way to assess the habitat suitability of the subject land is to rely on the BAM Credit Calculator to identify candidate species. Disregarding vegetation zones on the subject land, whether avoided or not, under-represents its habitat suitability.

The assessor determined that only vegetation zones to be cleared should be entered in the BAM Credit Calculator. This resulted in a list that was not inclusive of all threatened species on the subject land. As zone 8 is the only vegetation zone associated with PCT 360 and clearing on zone 8 is avoided, threatened species associated with PCT 360 were not represented in the survey effort described in the original BDAR dated August 2019.

Section 4.2.1 of the revised BDAR suggests that BCD requested an additional credit calculation. That is not correct. Our response to the original BDAR dated 6 November 2019 was that the BAM Credit Calculator should include all vegetation zones on the proposed site in order to make the assessment of habitat suitability more complete by relying on an enhanced list of threatened species candidates. We expect this to better inform the assessment of direct and indirect impacts. We do not expect the credit obligation to change as a result of that inclusion and did not seek a new credit calculation. We note that the calculation of the credit obligation may be adjusted upwards in order to offset indirect impacts at the discretion of the consent authority.

Section 3.2.4 of the Submissions Report indicates that the assessor sought clarification of this request from the BAM Support Team. We are aware that request was made on 5 November 2019. The applicant compares the advice provided by the BAM Support Team against the request of BCD dated 6 November 2019, suggesting that the two pieces of advice were contradictory.

In seeking clarification from the BAM Support team, the assessor did not disclose the context of the Jindera Solar Farm BDAR or the BCD response to it dated 6 November 2019. Neither does the Submissions Report disclose the full advice of the BAM Support team in response to the request for clarification.

On 7 November 2019 the BAM Support team advised the assessor that it is appropriate to use the BAM Credit Calculator to 'include all surrounding vegetation zones for the purposes of determining a vegetation integrity score and addressing Chapter 8 'avoid and minimise' of the BAM'. This advice is consistent with the requirement of BCD to include all PCTs on the subject land in the BAM Credit Calculator.

We note that the list of threatened species predicted to have suitable habitat on the subject land increases as a result of the action recommended in our prior response.

We support the addition of a Squirrel Glider Management Plan and ongoing involvement of the Squirrel Glider Advisory Group. We note the inclusion of the Squirrel Glider Management Plan in the mitigation measures of the BDAR.

Table 4-3 of the Submissions Report provides a response to individual community submissions. We note that 60 individual community submissions raised concerns about three impacts of tree clearing on biodiversity; the loss of established mature aged trees, the loss of natural flora and fauna, and that tube stock would not sufficiently replace mature vegetation.

The applicant has cited the BDAR as the primary means of mitigating these impacts. The applicant suggests that these impacts will be overcome by avoiding and minimising, undertaking mitigation measures, and by entering an offset obligation in the Biodiversity Offset Scheme. However, the consent authority is yet to determine whether the BDAR will have that effect.

The applicant's response to community submissions should state that the BCD assessment dated 6 November 2019 found that the BDAR dated August 2019 did not meet the Secretary's requirements for biodiversity. Specifically, the response to the community submissions should state that BCD found the following;

- Section 6 of the BAM was not applied to our satisfaction when making the BDAR
- that the BAM Credit Calculator had not been used to inform the effort to survey for threatened species on the subject land or to assess indirect impacts on species associated with PCT 360
- that impact assessments did not provide enough evidence to support the BDAR findings in relation to prescribed impacts, the potential for serious and irreversible impacts on the candidate entity (Box Gum Woodland), and the matters of national significance.

The applicant's response to community submissions should also state that the applicant has revised the BDAR, has made an effort to redress these aspects, that the revised BDAR is currently under review by the BCD, and that the consent authority will ultimately determine whether the EIS (including the Amendment Report) and the BDAR sufficiently mitigate the impact the proposed development is expected to have on biodiversity.

We note the need for the Biodiversity Management Plan to include measures to mitigate the effect of weeds and pathogens such as Myrtle Rust (*Puccinia psidii*).

As stated, the Biodiversity Offset Scheme offset obligation will be determined by the consent authority based on the cumulative impact of all mitigation measures, including the credit calculation. The consent authority has the discretion to increase the number of credits to be retired, when that is

justified. For the reasons stated above, we consider the credit obligation calculated by the applicant in the BDAR dated February 2020 to be indicative only at this stage.

7. Under-estimating habitat suitability by not entering all zones in BAM calculator.

We note that the list of threatened species assumed present on the development site is greater as a result of our EIS Recommended Action 6. Importantly, we also note that more clearing is proposed in the revised BDAR. We note the updated BAM Credit Calculations and agree that category 1 land (mostly zone 10) can be disregarded.

The Amendment Report provides a summary of the BAM Credit Calculator output.

8. Inadequate assessment of prescribed impacts and indirect impacts

Our EIS Recommended Action 8 was that the applicant improve the assessment of indirect impacts on the connectivity of populations of threatened species. We recommended that the impacts prescribed by cl.6.1 of the *Biodiversity Conservation Regulation 2017* (the BC Regulations) should guide that assessment. This remains largely undone in the revised BDAR.

The assessment of impacts prescribed by cl.6.1(1)(b) of BC Regulations require the assessor to determine the impacts of development on the connectivity of different areas of habitat of threatened species that facilitates the movement of those species across their range.

The revised BDAR presents a series of assumptions and anecdotes relating to that impact. No detail is provided of the focal populations of threatened species, their patches of habitat, nor the size or location of source populations, nor the distances between them, not on or off the development site. Without that level of detail, the indirect impact of the proposed development on the impacts prescribed by cl.6.1(1)(c) of the BC Regulations cannot be determined:

- the connectivity of different areas of habitat of threatened species that facilitates the movement of those species across their range
- the movement of threatened species that maintains their lifecycle
- vehicle strikes on threatened species animals, or on animals that are part of a threatened ecological community

The precautionary approach is to assume that such harm is caused.

We note that since the Southern Bell Frog is assumed to be present on the development site, that the revised BDAR should rely on cl.6.1(1)(d) of the BC Regulations as a guide to determining what indirect impact the proposed development will have on water quality, water bodies and hydrological processes that sustain threatened species and threatened ecological communities.

We note the comment from the BCD dated 6 November 2019 that more hydraulic modelling of the development site is required in the detailed design phase. The applicant should use this study to inform the assessment of indirect impacts on threatened species.

Strategies that the applicant could have used to better inform the consent authorities decision regarding indirect impacts the proposed development may have on the connectivity of threatened species populations, and how those impacts will be mitigated, include:

- Undertaking an enhanced survey or monitoring program
- Commissioning studies or consultation with species experts
- Offering an increased biodiversity credit obligation to offset indirect impacts on connectivity.

For example, if populations of threatened species are found to become isolated by the proposed development, the applicant can quantify that indirect impact and offer to offset it with additional biodiversity credits.

9. EPBC Matters

The revised BDAR does not provide any new evidence that the total impact of the development should not be referred to the Australian Government Department of Environment. We note the

enhanced assessment of condition thresholds for the federally listed White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and derived native grasslands at Table 5-1. This is the result of proposing to clear more of the habitat that has the potential to be that EEC, including the patch with the highest vegetation integrity of any PCT 277 on the development site (zone 2).

The vegetation integrity of the total area of PCT 277 to be cleared (18.69 ha) suggests that at least part of it has the potential to form the EPBC listed EEC. We see no evidence that that area should be limited to 0.4 ha.

BCD considers that the overall impact of the proposed development on habitat with the potential to be the EPBC-listed EEC, and on EPBC listed species known or likely to occur at the site, is not well understood. Examples of this are the impacts on connectivity and movement of species, and the cumulative loss of hollows across the landscape from four solar farms in the Greater Hume Shire. The precautionary approach is to refer the matter to the Australian Government Department of Environment.

10. Serious and irreversible impacts (SAIL) on the Box-Gum Woodland Threatened Ecological Community (TEC)

We concur that one SAIL candidate entity is present on the subject land, the Box-Gum Woodland Threatened Ecological Community (PCT 277). The applicant intends to clear both 18.69 ha of that TEC and an additional 34 scattered paddock trees which also form part of the TEC.

The Box-Gum Woodland TEC is listed because it is currently observed to be in a rapid rate of decline and to be severely degraded and disturbed. As such a consent authority must consider if development proposals will cause it to further decline, further degrade or be further disrupted.

The Table at Chapter 9.2.1(b) (revised BDAR page 97) should include all areas associated with PCT 277 that are directly impacted by clearing including scattered paddock trees, and any areas that are indirectly impacted including scattered paddock trees. Table 1 is provided as an example.

Table 1. Example table to show areas of TEC (PCT 277) at risk of serious and irreversible impact

Patch	Direct Impact	Indirect Impact
Zone 1	12.47	23.86
Zone 2	4.11	0.2
Zone 3	0.49	9.31
Zone 4	0	0.6
Zone 9	1.62	7.18
Scattered Paddock Trees	34	Any scattered paddock trees associated with PCT 277 that are retained on the development site

The judgement of the decision maker regarding the risk of serious and irreversible impact must be informed by the direct and indirect impact of the net loss of the SAIL candidate TEC across the development site. We recommend the consent authority also consider the cumulative impact of the Jindera Solar Farm on the TEC together with other solar farms (Walla Walla, Culcairn, Glenellen) proposed in the Greater Hume Local Government Area.

The onus is on the applicant to demonstrate the extent to which the proposed clearing is likely to have a serious and irreversible impact on the candidate TEC or not, and how the mitigation measures will remedy that harm, regardless of whether an SAIL threshold has been defined. The decision

maker has a duty to apply the precautionary principle in lieu of such evidence and shall only rely on the information provided in the BDAR.

We note that some of the measures in the EIS and appendices to mitigate impacts to native vegetation or habitat have been incorporated into the revised BDAR. Management plans for revegetation and the Squirrel Glider are examples.

The EIS describes a range of abiotic factors that have the potential to impact the SAI candidate TEC which have not been fully considered in the BDAR. Evidence regarding the development's potential impact on abiotic factors critical to the long-term survival of the SAI candidate TEC remains limited. For example, there is no estimation of whether electromagnetic radiation or the solar arrays will impact on photosensitivity of the TEC including associated fauna. Evidence to support the assumption that these and other abiotic factors will have no impact on the SAI candidate TEC remains lacking.

That the condition of the SAI candidate TEC retained on the site will be maintained is assumed and not supported by evidence. The potential for other threats and indirect impacts is not sufficiently assessed.

We consider that the proposed development will increase the rate of decline already observed for the SAI candidate TEC (SAI Principle One). We also consider that the proposed development will make the SAI candidate TEC more fragmented and isolated at a range of spatial scales, causing it to degrade further (SAI Principle Two). We consider these effects to be exacerbated by other solar farms being proposed in the Greater Hume Shire which have a similar effect on the SAI candidate TEC. We consider that the cumulative effects of these developments on the SAI candidate TEC need to be assessed.

We consider that the revised BDAR provides insufficient evidence to demonstrate that the proposed development will not have a serious and irreversible impact on the box-gum woodland TEC.

Given this, we recommend that the proponent be required to provide an adequate assessment of the impacts of the proposed development on the box-gum woodland TEC, including indirect and cumulative impacts. This should include increased mitigation measures that may reduce the likelihood of impact.