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Department of Planning and Environment

Our ref: DOC22-231788
Senders ref: SSD-11437498-Mod-1

Via Major Projects Portal: PAE-39495015

6 May 2022

Dear Mr Wathen

Subject: Broken Hill Battery Energy Storage (BESS), Modification 1 (SSD-11437498-MOD-1)

Thank you for your notification dated 22 March 2022 seeking comment from the Biodiversity and Conservation Division (BCD) on the above Modification.

BCD has reviewed the supplied Modification Report and associated Biodiversity Development Assessment Report (BDAR).

BCD considers that the BDAR does not meet requirements of the Biodiversity Assessment method (BAM). There are three key issues:

1. The BDAR has assessed a smaller development footprint than the Modification Report.
 - Assessment of the battery site (Lots 57 and 58) is not included in the BDAR, but the offset summary includes a credit requirement for an additional area (0.31 ha) matching the hectares of native vegetation on the battery site.
 - BCD understands that the Modification Approval, if granted, would replace the current project approval, so the assessed disturbance footprint should have included the battery site.
2. BCD does not support staged retirement of the offset liability for this project.
 - Two stages for retiring the biodiversity offset liability are proposed by the BDAR. The stages are not evident in the project described in the Modification Report (section 4.3) and are not justified in the BDAR.
 - Multiple revisions of the BAM calculator case to address offset staging are confusing, not adequately described and are not easily matched to information in the BDAR.
3. BAM minimum requirements have not been met, including inadequate justification for excluding some threatened species from the assessment and lack of specific mitigation measures.

Recommendations for further work to be completed before project determination are in **Attachment A**.

Attachment C provides a detailed list of BAM non-compliance issues identified in the BDAR. Some of these issues were raised by BCD in our [advice about the original EIS](#), which was submitted via the Major Project portal on 24 June 2021. The current review has identified additional issues such as errors in the BAM calculator that may have been present in the original assessment.

If you have any questions about this advice, please contact Miranda Kerr, Senior Biodiversity Conservation Officer, via rog.southwest@environment.nsw.gov.au or 02 6022 0607.

Yours sincerely



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ATTACHMENT A – BCD comments on Broken Hill Battery Energy Storage – Modification 1 (BESS) (SSD-11437498-Mod-1)

ATTACHMENT B – Disturbance footprint discrepancy between BDAR and Broken Hill BESS Modification Report

ATTACHMENT C – Details of BAM non-compliance for the Broken Hill BESS (SSI 11437498-Mod-1) Biodiversity Development Assessment Report (BDAR)

Attachment A – BCD comments on Broken Hill Battery Energy Storage – Modification 1 (BESS) (SSD-11437498-Mod-1)

Biodiversity

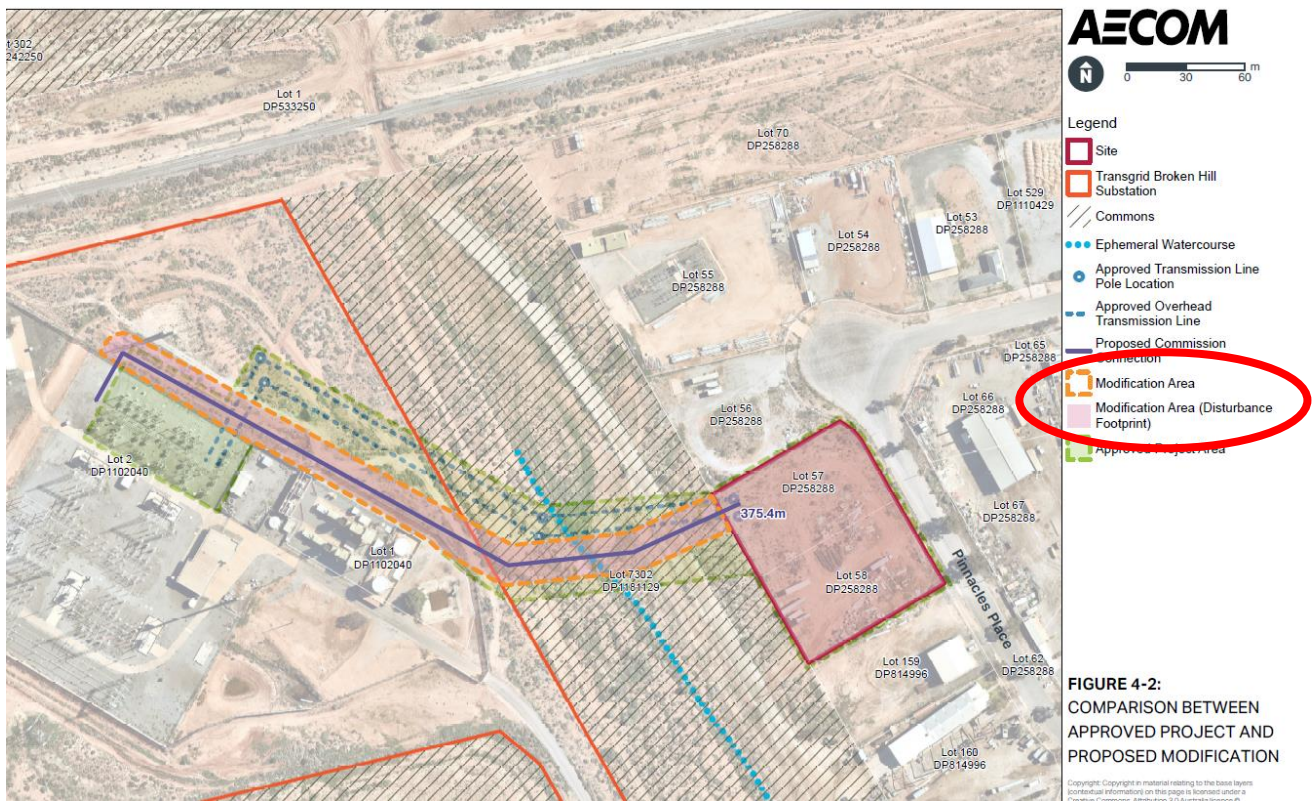
1.	<i>Assessment area is incomplete and inconsistent with the Modification Report</i>	<p>The BDAR has assessed a smaller development footprint than the Modification Report</p> <p>Appendix B shows the discrepancy between the development footprints used for the Modification Report and BDAR.</p> <p>Assessment of the battery site (Lots 57 and 58) is not included in the BDAR. The BDAR does not mention that any previous assessment will be used to supplement the Modification BDAR, but the offset summary includes a credit requirement for an additional area (0.31 ha of PCT 155) matching the hectares of native vegetation on the battery site.</p> <p>BCD understands that the Modification Approval, if granted, would replace the current project approval, so the assessed disturbance footprint should have included the battery site.</p> <p>Recommended action:</p> <p>1.1. Revise the BDAR to include assessment of the whole disturbance area as described in the Modification Report.</p>
	<i>Timing</i>	<i>Pre-determination</i>

2.	<i>Proposed staged credit retirement</i>	<p>BCD does not support staged retirement of the offset liability for this project.</p> <p>Two stages for retiring the biodiversity offset liability are proposed by the BDAR. The stages are not evident in the project described in the Modification Report (section 4.3) and are not justified in the BDAR.</p> <p>Multiple revisions of the BAM calculator (BAM-C) case to address the staging are confusing. They are not described in the BDAR with reference to vegetation zones and are not easily matched to information in the BDAR.</p> <p>Recommended action:</p> <p>2.1. Revise the BDAR to remove staged credit retirement</p> <p>2.2. Ensure the BAM-C case reflects the revised assessment and is clearly described in the BDAR.</p>
	<i>Timing</i>	<i>Pre-determination</i>

3.	<i>BAM non-compliance</i>	<p>BAM minimum requirements have not been met.</p> <p>We recommend the 5 issues listed below be resolved before the project is determined.</p> <p>Detailed feedback about non-compliance of the BDAR against the requirements of the BAM has been provided in Attachment C, for the information of the Accredited Assessors. Some of the issues identified in the BDAR were raised in our submission on the original project EIS. Repeated BAM non-compliance by Accredited Assessors will be referred to the DPE BAM Accreditation team.</p> <p>High-threat weeds, African boxthorn (<i>Lycium ferocissimum</i>) and <i>Prosopis velutina</i>, and a range of other pest plants that degrade native vegetation, were identified during the vegetation integrity assessment (s3.1.4). Mitigation Measures in Table 15 are inadequate for managing the potential for spread of high-threat weeds resulting from this proposed development. We recommend that a weed management strategy be prepared and implemented before any soil disturbance or vegetation clearing occurs.</p> <p>Recommended actions:</p> <ol style="list-style-type: none"> 3.1. The Modification uses the same BAM-C case as the approved project. S3.1.1 should confirm if any species were added or removed due to BAM-C updates since submission of the original project BDAR (BAM-C threatened species information was updated in December 2021). 3.2. Likelihood categories described in s 3.1.1 should only be applied to ecosystem species that have not been predicted by BAM-C (i.e. from BioNet records), and exclusion of candidate species from the assessment can only be according to BAM s5.2.3(2). 3.3. Provide justification for Low likelihood and exclusion of White-fronted Chat (ecosystem credit species) from the assessment. There is a BioNet record < 2km away from the site and PCT 155 present on the site is listed in TBDC as habitat. 3.4. Provide justification for exclusion of Crowned Gecko from the assessment. There is no evidence from the field survey to demonstrate that habitat is degraded, e.g. % shrub cover from field assessment and threshold below which habitat becomes degraded from literature. 3.5. Provide evidence that habitat for Thick-billed Grasswren (candidate species, SAI) on the site is degraded as per BAM s5.2.3(2) to justify its exclusion from the assessment. 3.6. Include specific details for measures in Table 15 to ensure biodiversity impacts are avoided, minimised and mitigated. For example, a weed control strategy prepared and implemented before any clearing (including pre-construction), including mapping the extent of all weeds identified in BAM plots within the disturbance footprint and a 20 m buffer, control of high-threat weeds prior to disturbance, and specifying vehicle hygiene measures for all vehicles and plant during construction
	<i>Timing</i>	Pre-determination

Attachment B Disturbance footprint discrepancy between BDAR and Broken Hill BESS Modification Report

Modification disturbance footprint is shaded pink (Modification Report Fig 4-2)



BDAR assessed area is outlined in yellow (BDAR Fig 1)



Attachment C Details of BAM non-compliance for the Broken Hill BESS (SSI 11437498-Mod-1) Biodiversity Development Assessment Report (BDAR)

BCD encourages Accredited Assessors to use the [BDAR template](#) for future assessments to ensure that all required information is clearly provided and in a sequence that assists our review against BAM requirements (BAM Appendix K).

In summary:

- The BDAR describes a relatively small area of total impact (< 1 ha) within a potentially disturbed area and the assessment should be commensurate with this level of impact. However, elementary aspects of the BAM have not been adequately completed, including some that were raised in the BCD submission (such as justification for surveying *Swainsona flavicarinata* outside the specified survey months).
- The sequence of the BDAR is confusing making it difficult to review against requirements of the BAM.
- Executive Summary indicates survey work was undertaken for the Mod. Needs to be clear that no new survey work was undertaken and that the BDAR relies on survey for the EIS.

BAM Administration

- The wrong *Assessment* Type has been entered into BAM-C. It should be Major Projects, not Part 4 Developments.
- Accredited Assessor Certification is not dated. The BDAR is dated 24 Jan 2022. The Modification Report was submitted to the Department on 25 Feb 2022, so the certification is 31 days, well outside the BC Act requirement for 14 days.
- References to the BAM are for BAM 2017, not 2020 (e.g. in 3.2.4 threatened fauna).

Introduction

- Maps and description in s1.4.1 (page 3) do not clearly show what is being assessed by this BDAR. The modification area is the revised transmission line - has the BESS site been included in this assessment?
- The assessed area does not match the Modification Area (disturbance footprint) in Modification Report Fig 4-1.
- BDAR for a Modification needs to outline available information about the original impact and assess any new biodiversity impacts that result from the modification in accordance with the BAM. There is no information about whether updates to the BAM calculator have changed the predicted and candidate species lists (i.e. via notifications when the calculator case was re-opened).
- The BDAR describes assessment of the modified transmission line footprint without the battery site. A credit requirement for the battery site is introduced at the end of the assessment with no explanation about how the calculation was achieved or any vegetation zone in the BAM calculator.
- Clarify that all access, laydowns, spoil will be within the footprint.

Landscape Assessment

- Description of the Modification Area in section 1.4 should consider that the natural vegetation of the site (chenopod shrublands) does not have an overstorey of "larger woody vegetation".
- Unclear why "regrowth" is mentioned or how it is relevant for the site's environment. Several ages of *Maireana* shrubs may indicate a natural state for this community (in a semi-arid environment).

- Percent native vegetation cover is reasonable but the assumptions are incorrect. Most of the vegetation is chenopod shrubland so is not "woody". It does not appear on woody extent layers available from the SEED website.
- Description of the site as lacking in connectivity is inconsistent with the assessment of patch size being >100 ha in s3.1.3.

PCT definition, vegetation integrity survey and vegetation zones:

- VI plots have unidentified species for key genera that define PCTs - *Eremophila*, *Maireana*, *Eucalyptus*. Field data supplied in MS-Excel spreadsheet is incomplete and does not match plot species lists in the BDAR.
- *Sclerolaena* species needed to be identified - they are indicative of different PCTs and condition states.
- Table 20 indicates that Plot 1 was used for vegetation zone 1 but BAM-C indicates it was used for Vegetation Zone 2.
- Survey in Broken Hill in December is unlikely to pick up ephemeral native herbs identifiable only in spring or after rainfall events. This needs to be considered when describing the condition of PCT 155 as poor.
- Plate 2 is not representative of PCT 155 as it is described in BioNet. The photo of the site on BDAR cover facing page appears not to be a chenopod shrubland and more like PCT 143 Narrow-leaved Hopbush - Scrub Turpentine - Senna shrubland on semi-arid and arid sandplains and dunes OR PCT 139 Prickly Wattle tall open shrubland of dunes and sandplains of semi-arid and arid regions. PCT description (Annex 1) has inaccurate statement about "regrowth", not justified by photo evidence.
- Photo 1 is labelled as being Plot 3 but does not appear to be in the right location. PCT 155 low condition (plot 3) appears to be a relatively intact chenopod shrubland. The location of the photo appears to be within Crown land (transmission line) and not within the Battery Site, where plot 3 is mapped.
- There is no description of the site soils and geology in the Introduction to compare with the edaphic associations used to identify the PCT in Annex 1.
- S3.1.2 is inadequate for justifying why there are no plots in vegetation zone 1 in the modification area. Unclear why additional plots were not sampled in the disturbance footprint (veg zone 1) for the modification when it was raised as an issue for the original project. Figure 3 is confusing and does not demonstrate that threatened flora surveys were adequate.
- Vegetation zones must be clearly identified and mapped in the BDAR and sampled by the minimum number of vegetation integrity plots. Vegetation zoning needs a separate section in the BDAR. There is no map of vegetation zones. No spatial data. Table 7 does not indicate zones as per BAM-C ID#. No vegetation zone for the Battery Site but it is included in the offset summary in s5.3.
- No justification for "low" condition naming of VZ1 or discussion about benchmarks for chenopod shrubland. No explanation of condition compared to benchmarks - are some factors low due to timing of survey? Evidence of disturbance?
- Configuration (i.e. multiple revisions) of the BAM-C case needs to be explained with the vegetation zone information. This aspect of the assessment is very confusing.
- Table 1 needs BAM-C number.

Threatened species assessment

- This section needs to be revised to follow the BAM.
- Unclear if likelihood categories described in s 3.1.1 are being applied to ecosystem and candidate species (species predicted by BAM-C). Exclusion of candidate species can only be according to BAM s5.2.3(2).

- The assessment of threatened fauna includes inadequate justification for excluding species from the assessment and statements about degraded habitat quality are not backed with evidence from the field survey. It also includes conflicting statements, such as Section 4.2.1 that states targeted surveys were conducted for three species at risk of SAI and were not detected, however Table 11 states that targeted survey was not conducted for Thick-billed Grasswren because they were unlikely to occur.
- Opportunistic and random meander surveys are inadequate for demonstrating the presence or absence of threatened species.
- Poor justification and supporting evidence for exclusion of ecosystem credit species based on geographic limitations, habitat constraints or vagrancy. There is a record for White-fronted chat (Ecosystem Credit Species) < 2km away from the site. Habitat (PCT 155) is present. No justification for Low likelihood (note that BCD did not check the full list).
- What is the difference between predicted and candidate species for the Modification, compared to the original project?
- The whole development needs to be included in the assessment (not just the Mod) to ensure patch size thresholds for predicting threatened species are accurate.
- Inadequate justification for not surveying Crowned Gecko and excluding it from the assessment. No evidence from the field survey to demonstrate that habitat is degraded, e.g. % shrub cover from field assessment and threshold below which habitat becomes degraded from literature.
- s3.2.1.2 - evidence of gps tracks does not demonstrate that parallel transects were used - Statement in s3.1.2.2 that threatened flora surveys were according to Guidelines 2020 are not supported by evidence. Table 8 - random meanders are not appropriate for surveying threatened flora.

Avoid and minimise impacts

- S4.1.1 confuses avoidance and mitigation. Mitigation measures are actions to manage and contain impacts that cannot be avoided.
- Information relied upon to demonstrate avoid and minimise must be supplied in the BDAR. No evidence that siting options were assessed. Relies on a Preliminary Biodiversity Survey (Niche, 2020) which is not in the reference list and not appended to the BDAR. Mitigation measures must be specified as per BAM Stage 2 Operational Manual and cannot rely on or reference post-approval plans that have not yet been written.

SAI

- Section 4.2.1 states that targeted surveys were conducted for species at risk of SAI and were not detected. This conflicts with Table 11 that states targeted survey was not conducted for Thick-billed grasswren.

Mitigation and management of impacts

- As per the BCD response to the original project EIS, avoidance and mitigation measures require specific information for BCD to be confident that the assessment will achieve the 'avoid and minimise' principles of the Biodiversity Offset Scheme. The BAM Stage 2 Operational Manual (Section 2.6, page 20) describes the level of detail expected for these measures, including the requirement for spatial identification of avoided areas. Each measure should have a unique identifier to allow tracking through to management plans and compliance auditing.
- Preparation of a BMP is not a mitigation measure.
- Mitigation measures cannot rely on unspecified actions in post-approval plans (Table 15 - "detailed in CEMP")

- High-threat weeds and a number of invasive exotic plants are reported in S3.1.4 and Table 20. Minimising spread and mitigating risk of new infestations due to vehicle movements and soil disturbance from the proposal is inadequately addressed. Weed control requires identification, mapping and removal of any weed populations that are likely to be spread during construction or operation.

Impact summary

- Additional offsets have been added to the assessed credit summary, based on two stages. These impacts were not assessed in the BDAR.
- BCD does not support staged offsets for a project of this relatively small scale.