Our ref: DOC21/1019642-16
Your ref: SSD-15950052

Mr Lander Robinson

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Resource Assessments 1B
Planning and Assessment Division
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Dear Mr Robinson

Major Projects – New Request for Advice - Eraring Battery Energy Storage System (SSD-15950052) (Lake Macquarie City)

I refer to your e-mail dated 17 November 2021 in which the Planning and Assessment Division (P&A) of the Department of Planning, Industry and Environment (the Department) invited Biodiversity and Conservation Division (BCD) for advice in relation to the Eraring Battery Energy Storage System project (SSD-15950052).

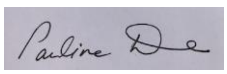
BCD has reviewed the Environmental Impact Statement, including relevant appendices, in relation to impacts on biodiversity (including matters of national environmental significance [MNES] under the *Environment Protection and Biodiversity Conservation Act 1999*) and flood risk.

With respect to MNES, BCD notes that the Biodiversity Development Assessment Report (BDAR) indicates a referral was submitted to the Australian Department of Agriculture, Water and the Environment on 28 May 2021 regarding the above matters. A "Not a Controlled Action" if undertaken "In a Particular Manner" (NCA-PM) decision was made by the Minister.

BCD's recommendations are provided in **Attachment A** and detailed comments are provided in **Attachment B**. Please note BCD has not reviewed the credit calculator files as they were not submitted at the time of this review.

If you require any further information regarding this matter, please contact Brendan Mee, A/Senior Team Leader Planning, on 02 4927 3248 or via email at huntercentralcoast@environment.nsw.gov.au

Yours sincerely



PAULINE DUNNE
A/Director Hunter Central Coast Branch
Biodiversity and Conservation Division

Date: 15/12/2021

Enclosure: Attachments A and B

Attachment A

BCD's recommendations

Eraring Battery Energy Storage System (SSD-15950052)

Biodiversity

1. The proponent should either:

    (i) consider Vegetation Zone 3 as 'not planted vegetation' and assess it appropriately under BAM 2020 to determine the biodiversity credit requirement, or

    (ii) provide evidence that this zone was subject to revegetation, in the form of hard copy plans / reports, surveys, vehicle / machinery logs, invoices, photographs or monitoring reports (or similar).

2. If resolution of recommendation 1 determines that the vegetation is planted, BCD recommends the accredited assessor provide appropriate justification as to why the planted vegetation would not be considered as functional given it is for soil erosion control and stabilisation purposes, and therefore require further assessment under Part D2 of Appendix D (Planted Vegetation) of the BAM.

3. BCD recommends the accredited assessor submits the credit calculator via the NSW Biodiversity Accredited Assessor System prior to the submission of the response to submissions report.

4. BCD recommends the accredited assessor includes the plot field data sheets in the Biodiversity Development Assessment Report (BDAR).

5. BCD recommends the accredited assessor update Figure 3.1 in the BDAR to show the plots with their unique plot identifier against the Plant Community Types.

6. The accredited assessor needs to demonstrate what actions and measures they have undertaken to avoid the direct and indirect impact on swift parrot important habitat mapping. BCD recommends the development footprint is redesigned to cover the more disturbed areas of the site and avoid the important mapped areas for the swift parrot.

7. The following additional actions should be added to the tree clearing protocols outlined in Section 4.2.2 of the BDAR:

    - Scheduling the clearing works for a time of year to avoid the breeding seasons of identified potential threatened species and other fauna that may breed on site.
    - Comparative habitat assessments should be conducted on clearing sites and proposed release sites to ensure that habitat features are available in the released sites.
    - Release sites should be identified and mapped prior to clearing and all appropriate approvals granted by the landholders.
    - Tree clearing should not be conducted above 35°C for the interests of animal welfare.

- Communication with rescue agencies and local veterinarians prior to the commencement of clearing to confirm the availability of resources for any captured/injured fauna that is unable to be released.

- Clearing should be conducted sequentially and directionally towards areas of refuge to prevent the creation of vegetation islands.

- Ensure that trees felled are positioned so that hollows are facing upwards and out to allow fauna to escape overnight.

8. BCD recommends that the BDAR should provide a more detailed appraisal of what the potential impacts of any relocations / translocations of displaced fauna (particularly threatened species) may be on adjoining habitat and what measures (e.g. monitoring) will be employed to minimise any detrimental effects on existing faunal populations that utilise such areas.

9. BCD recommends that the accredited assessor update the BDAR to include measures proposed to address the offset obligations.

Flooding and flood risk

10. No further flooding assessment is required.

Attachment B

BCD's detailed comments

Eraring Battery Energy Storage System (SSD-15950052)

Biodiversity

Biodiversity Conservation Division (BCD) has reviewed the '*Biodiversity Development Assessment Report for Battery Energy Storage System*' (BDAR) dated October 2021 and its Appendices.

1. Vegetation Zone 3 'Planted Native Vegetation' is not considered to be 'planted' and either needs further justification or needs to be assessed under the BAM

BCD notes that Vegetation Zone 3: 'Planted Native Vegetation' has been assessed as planted in accordance with Appendix D of the Biodiversity Assessment Methodology 2020 (BAM 2020) (DPIE 2020a), which effectively permits any Plant Community Type (PCT) that cannot be reasonably assigned a PCT under the NSW BioNET Vegetation Classification to be mapped as planted native vegetation. Under this scenario no further assessment is required and the area of planted native vegetation does not generate biodiversity credits. Vegetation Zone 3, which is 10.6 ha, is described as being a single aged Swamp Oak (*Casuarina glauca*) patch with various scattered (but intermittent) shrub species and a groundcover *Imperata cylindrica*, *Centella asiatica* and *Gahnia* spp.

BCD does not consider that appropriate justification has been provided in the BDAR to assign Vegetation Zone 3 as 'planted native vegetation'. BCD considers that this zone should be assigned to a Swamp Oak (*Casuarina glauca*) PCT type and assessed accordingly under the BAM to determine the biodiversity credit requirement. Based on the justification provided in the BDAR (presented below, in *italics*), BCD argues that it is not clear that the vegetation in Zone 3 is planted and the assessment under Appendix D is not suitable due to:

- *Historic imagery from August 2010 shows excessive clearing within the Development Footprint, and when this is overlayed with the vegetation mapping, this clearing aligns with this vegetation type*.

  Although BCD acknowledges that historic imagery from August 2010 (as per Figure 1.4 – Development footprint in March 2020) clearly shows the area that corresponds to Vegetation Zone 3 is devoid of vegetation, it does not demonstrate that it has regrown from a replanting program. Analysis of the subject area under Near Map (accessed December 2021; https://www.nearmap.com/au/en) shows that the vegetation is more likely to have regrown back over the last 10 years from small patches of suckering (on the edges and centrally) or natural regeneration of Swamp Oak which has radiated out from them across the site, along with likely wind-blown or natural regeneration of shrub and groundcover species.

  The imagery does not show a uniform regeneration pattern over the 10 year period since the clearing (which would lend its support to a replanting program), but it is a more sporadic, patchy pattern of regeneration over the years. Nor is there any indication of a cultivation / sowing pattern to the subject site, except for a very small area of what appears to be cultivation on the 26 April 2013 image and regeneration of vegetation in rows in the subsequent imagery. However, this covers less than 5% of the originally cleared area and appears to be a mixture of low shrubs and groundcover and appears to have disappeared by 2018.

- *The species assemblage in this community on site does not appear to be a 'natural' vegetation community and cannot be reasonably aligned with a PCT*.

  BCD is of the opinion that the Vegetation Zone 3 (based on the photo in Section 3.2.1.3 of the BDAR) shows a disturbed Swamp Oak community that has potentially regrown on a very disturbed site, and as such does not appear to be 'natural'. BCD agrees that this vegetation type is unlikely to be consistent with other Swamp Oak communities (PCTs) in the local area as it is likely a very disturbed variant and not necessarily subject to the same environmental influences (such as hydrology which influences the more natural communities). Disturbance has likely reduced structure and floristic diversity, aided suckering / vegetative regeneration and weediness. However, BCD does not agree that if the vegetation was regenerating it would have a more blended edge with the adjoining PCTs. Again, the fact that it is highly disturbed provides a stark contrast to the adjoining vegetation.

  With respect to assigning a PCT, BCD believes that it could be loosely assigned to one of the more general Swamp Oak PCTs, such as PCT 1729, 1728 and 1724, which have some similar shrubs species (e.g. *Acacia longifolia*) and groundcover species (e.g. *Gahnia* spp. and *Centella asiatica*). However, this is a highly disturbed community and as such will be missing many of the components of its natural state, and hence a 'best fit' approach should be applied. Other Swamp Oak communities occurring in the locality should also be examined. With respect to shrub species, typically Swamp Oak stands can be very dense, which limits the establishment of a shrub stratum, both structurally and floristically.

- *The Project Approval (Major Project Application 06_238) for the original disturbance in the Development Footprint specifies in Clause 2.22 "As soon as practicable after the completion of construction works, the Proponent shall stabilise and rehabilitate disturbed areas associated with the attemperation reservoir and borrow pit using locally endemic native species".*

  Although this suggests that a replanting program was to be established this does not prove that such a program was initiated nor exclude that the site might have naturally regenerated. BCD suggest that if a program was initiated, then there would likely be records such as a revegetation management plan or replanting plans (or similar), proposed seed mixture documents, surveys, vehicle / machinery logs, invoices, photographs, and any monitoring / final assessment reports. These should be provided if they are available.

  BCD also questions that Swamp Oak would have formed the dominant mix in the rehabilitation plantings. This is not a common species used in rehabilitation works and partially the reason why BCD considers it potentially likely that this species has naturally regenerated. Again, evidence from the proponent showing seed purchase would support the replanting theory. Similarly, groundcover species like *Imperata cylindrica* and *Centella asiatica* are not species conducive to replanting / reseeding and are more likely present due to regeneration.

- *Swamp oak is not found in the area adjacent to the Development Footprint, outside of areas that were historically cleared, and the landscape of the Development Footprint does not suit swamp oak. It is not riparian, estuarine, brackish, a lake shore or a swampy floodplain, which is typically the landscape conducive to this species*.

  In highly disturbed situations Swamp Oak can readily regenerate (often via suckering) on areas which are not estuarine or riparian in nature, and this does not indicate that it would be planted. As indicated above BCD finds it unusual that the species was used as the main species in a replanting mix. Typically, it is a species which regenerates or suckers

back (like other species of *Casuarina* / *Allocasuarina*), often as a mono-specific stand depending on the level of prior disturbance.

BCD disagrees that Swamp Oak is not found in the area adjacent to the subject site. The BDAR indicates that 'PCT 1716 Prickly- leaved Paperbark Forest on coastal lowlands of the Central Coast and Lower North Coast' is described as having a fairly closed canopy dominated by prickly-leaved paperbark (*Melaleuca nodosa*), flax-leaved paperbark (*Melaleuca linariifolia*) and swamp oak (*Casuarina glauca*). The latter being implied as encroaching from the surrounding planted native vegetation, to which BCD disagrees and offers the alternative theory that it may have come from the adjoining Estuarine Swamp Paperbark Forest (as per S. Bell mapping for Lake Macquarie local government area). Furthermore, 'Swamp Oak – Rushland forest' does fringe Eraring Lake immediately to the south (1.1km) and also along the unnamed paperbark swamp to the west of the site (approx. 250 metres). As such the subject site is located in an area which has estuarine / lacustrine influences and Swamp Oak is a common component of communities associated with this.

- *A closed canopy dominated by swamp oak (Casuarina glauca) which all appear to be of a similar age, being young with no large trees (>30 cm diameter at breast height) are present and which are very thickly spread, supporting the idea that the community is not naturally occurring*.

  This is not evidence of a planted community. Equally a regenerating community from a major disturbance could show signs of being dominated by a single-aged stand. However, the aerial imagery in Near Map (as per above) shows that the vegetation regenerated over the site not in a uniform manner, with the first signs of regeneration appearing along the edges and in the central portion of the area that was cleared. The image pattern over successive years does not necessarily support that the vegetation (notably Swamp Oak) is single-aged.

  Similarly, a dense, thick stand could equally be a result of regeneration following disturbance as opposed to that resulting from a replanting program.

- *No use by threatened fauna species in this vegetation was observed during any surveys. It is not considered to provide any habitat for threatened fauna species, given the very young age and homogenous nature of the swamp oak, no hollows being present, a general paucity of logs and the only leaf litter being from swamp oak (i.e., needles that provide low functional value).*

  This is not supporting evidence that the vegetation is planted. Equally vegetation that has regenerated from a disturbance event and is only 10 years old would likely have poor habitat quality and structural diversity. Given its age, it is highly unlikely that hollows have developed (or would develop given the dominant species is Swamp Oak) or that fallen timber would be hollow-bearing (i.e. hollow logs).

In light of the above concerns, BCD considers that the proponent either (i) considers the vegetation in Vegetation Zone 3 as not planted and assign the best fit PCT and assess appropriately under the BAM or (ii) provide appropriate evidence that revegetation has occurred on site, in the form of hard copy rehabilitation / vegetation management plans, surveys, vehicle logs, photographs, invoices or similar.

Recommendation 1

The proponent should either:

(iii) consider Vegetation Zone 3 as 'not planted vegetation' and assesses it appropriately under BAM 2020 to determine the biodiversity credit requirement, or

(iv) provide evidence that this zone was subject to revegetation, in the form of hard copy plans / reports, surveys, vehicle / machinery logs, invoices, photographs or monitoring reports (or similar).

2. If the proponent verifies that the vegetation is planted, it may still require assessment under the BAM

Appendix D of the BAM 2020 outlines the streamlined assessment approach for 'planted native vegetation'. If the accredited assessor provides suitable physical evidence to justify that Vegetation Zone 3 meets the requirements of 'planted native vegetation', BCD is still of the opinion that Criteria 5 of Appendix D may require further assessment under the BAM. It states: *Is the native vegetation (including individuals of a threatened flora species) planted for functional, aesthetic, horticultural or plantation forestry purposes?*

The accredited assessor has responded in the BDAR that the vegetation in question was not planted for functional, aesthetic, horticultural or plantation forestry purposes. It was required as part of the Project Approval for stabilisation and rehabilitation. BCD concurs that Clause 2.22 of the Project Approval (Major Project Application 06_238) requires the proponent to: "*As soon as practicable after the completion of construction works, the Proponent shall stabilise and rehabilitate disturbed areas associated with the attemperation reservoir and borrow pit using locally endemic native species*". However, BCD is of the opinion that if the vegetation is shown to be planted, then it may meet the for 'functional purposes' definition of the criteria as it would prevent soil erosion and stabilise the general landform the vegetation is on. As such, it fulfils a function and would trigger Part D2 of the Streamlined Assessment for planted native vegetation, the assessor would then need to determine whether the planted vegetation is habitat for threatened species and if there is evidence then apply Section 8.4 of the BAM to mitigate and manage impacts on these species. Species credits are not required to offset the proposed impacts.

BCD would require further justification as to why the planted vegetation would not be considered as functional given it is for soil erosion control purposes.

Recommendation 2

If resolution of recommendation 1 determines that the vegetation is planted, BCD recommends the accredited assessor provide appropriate justification as to why the planted vegetation would not be considered as functional given it is for soil erosion control and stabilisation purposes, and therefore require further assessment under Part D2 of Appendix D (Planted Vegetation) of the BAM.

3. The Accredited Assessor should submit the credit calculator via the NSW BAAS.

The credit calculator used in the BDAR to determine the credit requirements (both ecosystem and species) has not been submitted via the NSW Biodiversity Accredited Assessor System (BAAS). This is required to finalise Biodiversity Conservation Division's (BCD) assessment of the BDAR.

BCD reviews an accredited assessor's credit calculator files to determine if the Biodiversity Assessment Method (BAM) has been applied correctly, that the BDAR and calculator use the same data and selected parameters (i.e. 'drop down menus'), and that the biodiversity credit requirements (both ecosystem and species) are consistent between the BDAR and the credit calculator.

Recommendation 3

BCD recommends the accredited assessor submits the credit calculator via the NSW Biodiversity Accredited Assessor System prior to the submission of the response to submissions report.

4. Copies of plot field data sheets should be provided

The plot field data sheets have not been included in the BDAR. Providing field data sheets is a requirement under the BAM (DPIE 2020, see Table 24 in the BAM). BCD reviews the plot field data sheets to ensure consistency between the data sheets, the BDAR and the credit calculator.

Recommendation 4

BCD recommends the accredited assessor includes the plot field data sheets in the Biodiversity Development Assessment Report (BDAR).

5. Identify the plots on the Plant Community Types and Development Footprint figure (Figure 3.1 in the BDAR)

Figure 3.1 in the BDAR shows the plots overlaying the PCTs within the subject site. However, the plots are not numbered with their unique identifier (e.g. Plot No. 3), thus making it difficult to determine which plots equate to which PCT. This is problematic when trying to assess or interpret the cover / abundance data and species present per plot in Appendix 4 – Flora Species List, as you cannot accurately determine which species was found in which PCT.

Recommendation 5

BCD recommends the accredited assessor update Figure 3.1 in the BDAR to show the plots with their unique plot identifier against the Plant Community Types.

6. The development should avoid the Swift Parrot habitat which has been identified under the Important Habitat Mapping

Section 3.3.3 of the BDAR identifies that Swift parrot (*Lathamus discolor*) important habitat mapping occurs within the development footprint. This falls within '*PCT 1636 - Scribbly Gum - Red Bloodwood - Angophora inopina heathy woodland on lowlands of the Central Coast*' and equates to 3.1 ha. This PCT could provide winter foraging habitat when the eucalypts are in flower. Figure 3.1 in the BDAR schematically shows the 'Swift Parrot important habitat mapping' polygons and associates them with PCT 1636. None of these areas appear to have been avoided or excluded from the development, and although there are no records of the swift parrot on site two observations have been made on the land adjoining the subject site to the north (i.e. 75 and 300 metres away).

Under the BAM, 'important habitat maps' are mapped areas considered to be important for the survival of a threatened species in the wild, in this case the Swift Parrot. 'Important habitat mapping' triggers the Serious and Irreversible Impacts (SAII) provisions under Section 9.1 of the BAM. As such the Swift Parrot would be considered a SAII species for this assessment. Therefore, the accredited assessor must include the action and measures taken to avoid the direct and indirect impact on the threatened species at risk of a SAII.

Section 5.3.1 of the BDAR provides an assessment of SAII for the swift parrot but avoiding the areas of important area mapping does not appear to have been addressed or considered. This should have been the first step in the assessment on SAII matters. BCD notes the only comments on avoidance in this section relate to avoiding 14.1 ha of swamp sclerophyll forest endangered ecological community (EEC), which is outside the development footprint. Although this area contains suitable winter-flowering feed trees, namely swamp mahogany (*Eucalyptus*

robusta), it is not being directly impacted by the proposal. Nevertheless, the assessor has used the avoidance of this area as justification to remove all 3.1 ha of the vegetation mapped as important habitat within the site, by implying it is marginal. BCD disagrees with this assumption given the mapping is based on delineating important areas of foraging habitat, based on PCTs present, likely inclusion of feed tree species and BioNET records of the species. The assessor has made no attempt to avoid the areas of important habitat on site. BCD queries why the development cannot be redesigned to fit within the extensive area of disturbed vegetation on the site (i.e. > 10 ha).

Recommendation 6

The accredited assessor needs to demonstrate what actions and measures they have undertaken to avoid the direct and indirect impact on swift parrot important habitat mapping. BCD recommends the development footprint is redesigned to cover the more disturbed areas of the site and avoid the important mapped areas for the swift parrot.

7. Additional fauna management measures should be considered for the tree clearing protocols.

Section 4.2.1 (Pre-clearance and tree-felling) of the BDAR outlines the management measures which are to be implemented to minimise the impacts of the vegetation clearing on fauna. The subsequent sub sections provide detailed sections on the requirements for pre-clearing surveys and a tree-clearing supervision.

BCD considers that additional tree clearing protocols should be considered in Section 4.2.1 to ensure clearing activities at the site follow best practice methods. These protocols are described below.

Recommendation 7

The following additional actions should be added to the tree clearing protocols outlined in Section 4.2.2 of the BDAR:

- Scheduling the clearing works for a time of year to avoid the breeding seasons of identified potential threatened species and other fauna that may breed on site.
- Comparative habitat assessments should be conducted on clearing sites and proposed release sites to ensure that habitat features are available in the released sites.
- Release sites should be identified and mapped prior to clearing and all appropriate approvals granted by the landholders.
- Tree clearing should not be conducted above 35°C for the interests of animal welfare.
- Communication should occur with rescue agencies and local veterinarians prior to the commencement of clearing to confirm the availability of resources for any captured/injured fauna that is unable to be released.
- Clearing should be conducted sequentially and directionally towards areas of refuge to prevent the creation of vegetation islands.
- Ensure that trees felled are positioned so that hollows are facing upwards and out to allow fauna to escape overnight.

8. How will captured fauna be relocated?

Section 4.2.1.2 (Tree felling supervision) of the BDAR briefly comments on displacement of wildlife during the tree-felling process, stating: *Uninjured animals should be released on the day of capture into nearby suitable secure habitat and should not be held for extended periods of time*. Whilst injured animals will be taken to the nearest veterinary clinic for assessment and treatment, BCD considers that further details are required.

Although BCD generally does not support relocation / translocation of captured threatened fauna due to impacts on resources, potential disease implications, and social disruption of other animals already utilising available habitat, the 'good intentions' of such measures are acknowledged. The proponent should specify in detail what will happen to displaced threatened fauna in greater detail, and if it proposes relocation / translocation then the BDAR should provide an appraisal of what the potential impacts of such relocations / translocations may be and what measures (e.g. monitoring) will be employed to minimise any detrimental effects on existing faunal populations and adjacent habitat.

Any relocation / translocation of wildlife should be done in accordance with '*Translocation operational policy*' (DPIE 2019), and translocation of threatened species will likely require a license under section 132 of the *National Parks and Wildlife Act 1974* or a threatened species licence, under Part 2 of the *Biodiversity Conservation Act 2016* if species are being relocated to areas outside the approved development consent area. The BDAR needs to include these details.

Recommendation 8

BCD recommends that the BDAR provides a more detailed appraisal of what the potential impacts of any relocations / translocations of displaced fauna (particularly threatened species) may be on adjoining habitat and what measures (e.g. monitoring) will be employed to minimise any detrimental effects on existing faunal populations that utilise such areas.

9. The BDAR must include details of the measures proposed to address the offset obligation

The BDAR does not provide any details of the measures proposed to address the offset obligations. BCD's Secretary's Environmental Assessment Requirements (dated 13 March 2021; DOC21/240263-3) indicate that the BDAR must include details of the measures proposed to address the offset obligation such as:

- The total number and classes of biodiversity credits required to be retired for the development/project;
- The number and classes of like-for-like biodiversity credits proposed to be retired;
- The number and classes of biodiversity credits proposed to be retired in accordance with the variation rules;
- Any proposal to fund a biodiversity conservation action;
- Any proposal to conduct ecological rehabilitation (if a mining project);
- Any proposal to make a payment to the Biodiversity Conservation Fund.

Recommendation 9

BCD recommends that the accredited assessor update the BDAR to include measures proposed to address the offset obligations.

Flooding and flood risk

10. BCD is satisfied with the flooding and flood risk assessment

BCD is satisfied with the flooding and flood risk assessment in the EIS and no further flooding assessment is required.

Recommendation 10

No further flooding assessment is required.