



Office of Environment & Heritage

Your reference: SSD 8825
Our reference: DOC18/240391
Contact: Miranda Kerr
Ph 02 6022 0607
Date: 24 May 2018

Georgia King
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Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Via email: Georgia.King@planning.nsw.gov.au

Dear Ms King

RE: Gregadoo Solar Project (SSD 8825) – Exhibition of Environmental Impact Statement

I refer to your email dated 19 April 2018 seeking comment from the Office of Environment and Heritage (OEH) about the Environmental Impact Statement (EIS) for the Gregadoo Solar Project located approximately 13km southwest of Wagga Wagga, in the Wagga Wagga local government area.

We have reviewed the exhibited EIS against the Secretary's Environmental Assessment Requirements (SEARs) provided by the Department of Planning and Environment (DPE) to the proponent on 29 November 2017.

OEH considers that the EIS **does** meet the Secretary's requirements for biodiversity and Aboriginal cultural heritage assessment (ACH), contingent on the applicant addressing issues 2 to 4 identified in **Attachment A**.

The EIS **does not** meet the Secretary's requirements for flooding.

A summary of our assessment, advice and recommended conditions of approval is provided in **Attachment A**. Detailed comments are in **Attachment B**.

All plans required as a Condition of Approval that relate to flooding, biodiversity or ACH should be developed in consultation and to the satisfaction of OEH, to ensure that issues identified in this submission are adequately addressed.

If you have any questions regarding this matter, please contact me on (02) 6022 0607 or email miranda.kerr@environment.nsw.gov.au.

Yours sincerely

ANDREW FISHER
A/Senior Team Leader Planning
South West Branch
Regional Operations
Office of Environment & Heritage

ATTACHMENT A – OEH Assessment Summary for Gregadoo Solar Farm Environmental Impact Statement (SSD 8825)
ATTACHMENT B – Detailed comments for Gregadoo Solar Farm Environmental Impact Statement (SSD 8825)

ATTACHMENT A OEH Assessment Summary for Gregadoo Solar Project Environmental Impact Statement (SSD 8825)

Key Issues

1	Issue	<p>OEH specified in our response to DPE's request for SEARs (21 November 2011) that an assessment of the impacts of the proposed development on the flood behaviour for downstream areas was required.</p> <p>The EIS has determined that the development is "unlikely to impact flood behaviour" without performing the required impact assessments.</p> <p>Recommended action:</p> <ul style="list-style-type: none"> Model 'runs' of the post-development state of the site are performed to determine the potential flooding impacts of the proposal on downstream areas.
	Extent and Timing	Pre-determination
2	Issue	<p>Impacts to Aboriginal cultural heritage (ACH) sites 'Gregadoo Solar IF2', 'Gregadoo SF619' and 'Gregadoo SF360' and their locations are inconsistently described in the Aboriginal Cultural Heritage Assessment Report (ACHAR).</p> <p>Recommended action:</p> <ul style="list-style-type: none"> Revise the ACHAR to clarify inconsistencies regarding impacts to and location of ACH sites.
	Extent and Timing	Pre-determination
3	Issue	<p>Aboriginal cultural heritage (ACH) management and mitigation measures must be identified and implemented before construction begins.</p> <p>A Cultural Heritage Management Plan should be developed in consultation with Registered Aboriginal Parties and include:</p> <ul style="list-style-type: none"> a description of the proposed salvage procedure for the Aboriginal objects that will be harmed by the project (in accordance with Requirement 26 of the 'Code of Practice for Archaeological Investigation of Aboriginal objects in NSW') and submission of Aboriginal Site Impact Recording Forms. a clear mitigation strategy (including fencing for scar tree) to ensure that Aboriginal objects to be avoided during construction are not harmed protocols for unexpected finds, including human remains Aboriginal site induction material supplied to staff and contractors carrying out ground disturbance activities.
	Extent and Timing	Pre-construction
	Recommended Conditions of Approval	<ol style="list-style-type: none"> Protective fencing be established around scar tree site with a buffer zone sufficient to protect the tree root system (outside drip line). A Cultural Heritage Management Plan is developed prior to the commencement of construction, and to the satisfaction of OEH, that clearly details the following:

		<ul style="list-style-type: none"> • a description of the proposed salvage procedure for the Aboriginal objects that will be harmed by the project • mitigation measures for protecting the known sites, including protective fencing established around the scar tree site (Gregadoo SF645) with a buffer zone sufficient to protect the tree root system (outside drip line) • clear marking and protection of any ACH constraints, within or near to, proposed activities • an appropriate unexpected finds protocol, including the following: If any Aboriginal object is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the proponent must: <ol style="list-style-type: none"> 1. Not further harm the object 2. Immediately cease all work at the particular location 3. Secure the area to avoid further harm to the Aboriginal object 4. Notify OEH as soon as practical on 131555, providing any details of the Aboriginal object and its location 5. Not recommence any work at the particular location unless authorised in writing by OEH. If skeletal remains are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and NSW Police and OEH contacted.
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4	Issue	<p>The assessment presented in the Biodiversity Development Assessment Report (BDAR) that a serious and irreversible impact to the Box-gum woodland EEC is 'unlikely' relies on minimising understorey disturbance during construction of the overhead transmission line over Boiling Down Creek.</p> <p>The EIS does not provide enough detail for OEH to be confident that there is a commitment from the proponent to ensure appropriate techniques and site management will be employed in that location. There is also no information about the level of clearing required within the transmission line corridor.</p> <p>Recommended actions:</p> <ul style="list-style-type: none"> • Confirm the level of vegetation clearing required within the transmission line corridor over Boiling Down Creek. • Provide more detail about how impacts will be minimised during construction and on-going maintenance in the SAI area shown on Figure 9-1. When confirmed, these details should be included with BD4 and BD11 in EIS Section 6.1.8 Safeguards and mitigation measures (page 77).
	Extent and Timing	Pre-determination

OEH Advice

1.1 Is the 'baseline' for impact assessment reasonable? **Yes**

1.2 Are predictions of impact robust (and conservative) with suitable sensitivity testing? **Yes**

Yes, for biodiversity and ACH. Flooding requires more work.

1.3 Has the assessment considered how to avoid and minimise impacts? **Yes**

Biodiversity impacts are comprehensively assessed and mitigation measures are appropriate

1.4 Does the proposal include all reasonably feasible mitigation options? **Yes**

Commitment to protection of the scar tree is required

2. Is the assessed impact acceptable within OEH's policy context? **Yes**

3. Confirmation of statements of fact

The biodiversity assessment is thorough and factual. Aboriginal cultural heritage and flooding assessments are generally correct.

4. Elements of the project design that could be improved

ATTACHMENT B Detailed comments for Gregadoo Solar Project Environmental Impact Statement (SSD 8825)

Flooding

OEH has reviewed the flooding component in Section 7.2 of the EIS (and Appendix I). **The EIS does not fully address the Secretary's requirements for flooding.**

The OEH response to DPE's request for SEARs (21 November 2011) specified that an assessment of the impacts of the proposed development on the flood behaviour for downstream areas was required, noting that the proposal site is covered by an existing 2D hydraulic model developed by Wagga Wagga City Council (WWCC).

Populated areas are located immediately downstream from the development site that are already subject to overland flow flooding. Any increase or redistribution of runoff due to this proposal could potentially increase the flood risk for residents located downstream.

The EIS has determined that the development is "unlikely to impact flood behaviour" without performing the required impact assessments. Results of the hydraulic modelling previously completed by WWCC as part of the Major Overland Flow Flood Study Project have been presented but without further analysis. The WWCC dataset represents only the pre-development state of the site. OEH consider it necessary to perform model runs that represent the post-development state of the site to determine the potential impacts of this proposal on downstream areas.

Recommended actions:

- *Model 'runs' of the post-development state of the site are performed to determine the potential flooding impacts of the proposal on downstream areas*

Aboriginal cultural heritage

The Aboriginal Cultural Heritage Assessment Report (ACHAR) meets the Secretary's requirements and is generally consistent with requirements identified by the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (OEH 2010).

Salvage

We note most sites identified during assessment will be avoided, including the culturally modified tree (Gregadoo SF645).

Impacts to sites and their locations are inconsistently described in the supplied documentation as follows:

- The ACHAR states that Gregadoo Solar IF2 and Gregadoo SF619 would be impacted (Potential Impacts, pg vii), and subject to salvage.
- The identified risk to known sites in Table 7 (pg 42) indicates that Gregadoo SF619 is outside the development area and not at risk of harm but that Gregadoo SF360 is at risk of harm.
- The location of recorded sites (Figure 8) on page 35 confirms Gregadoo SF619 as occurring within the development footprint.

Inconsistencies regarding impacts to and location of sites should be clarified prior to development approval.

Protection of sites

A physical protective barrier (i.e. fencing) should be established around the scar tree (Gregadoo SF645) outside the canopy dripline, which is estimated to be the extent of the root system.

Site impact forms

An Aboriginal Site Impact Recording Form must be completed and submitted to the AHIMS Registrar for all sites/objects subject to salvage

A new site card is not required as part of the salvage and transfer of objects that are at risk of harm. According to Requirement 26 of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* a 'site update record card' is to be submitted for the sites in question. We advise the proponent to complete an Aboriginal Site Impact Recording Form and submit to the AHIMS Registrar <http://www.environment.nsw.gov.au/resources/cultureheritage/120558asirf.pdf>.

All site impact forms are uploaded by OEH onto AHIMS as addenda to the original AHIMS site recording forms. This helps ensure that current information about the status of AHIMS sites is maintained and an accurate picture of the condition of all registered Aboriginal sites across NSW is always available. The site impact form is intended to complement (not replace) an AHMS site recording form and ***must*** be completed following impacts to AHIMS sites that are:

- Result of test excavation in accordance with Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW
- Authorised by an AHIP
- Undertaken for purposes of complying with SEARs issued by DPE for state significant developments and state significant infrastructure and Major Projects (part 3a now repealed)
- Authorised by a SSD/SSI consent/approval

Unexpected finds procedure

The 'unexpected finds procedure' to deal with the construction activity must also include an appropriate protocol for encountering skeletal remains.

OEH advise against notifying registered Aboriginal parties (RAPs) of the discovery of skeletal remains until the Police have confirmed that the remains date from before European settlement and are Aboriginal in origin.

We recommend the following conditions of development consent:

- *Protective fencing be established around scar tree site with a buffer zone sufficient to protect the tree root system (outside drip line).*
- *A Cultural Heritage Management Plan CHMP is developed prior to the commencement of construction, and to the satisfaction of OEH, that clearly details the following:*
 - *a description of the proposed salvage procedure for the Aboriginal objects that will be harmed by the project*
 - *mitigation measures for protecting the known sites, including protective fencing established around the scar tree site (Gregadoo SF645) with a buffer zone sufficient to protect the tree root system (outside drip line)*
 - *clear marking and protection of any ACH constraints, within or near to, proposed activities*
 - *an appropriate unexpected finds protocol, including the following:*

If any Aboriginal object is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the proponent must:

- 1. Not further harm the object*
- 2. Immediately cease all work at the particular location*
- 3. Secure the area to avoid further harm to the Aboriginal object*
- 4. Notify OEH as soon as practical on 131555, providing any details of the Aboriginal object and its location*
- 5. Not recommence any work at the particular location unless authorised in writing by OEH.*

If skeletal remains are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and NSW Police and OEH contacted.

Biodiversity

The Biodiversity Development Assessment Report (BDAR) at Appendix E meets the Secretary's requirements for biodiversity.

OEH commend the proponent on a clear, detailed and thorough biodiversity assessment, for fulfilling all the information requirements, and providing data as requested.

Specific comments on the BDAR and related sections in the EIS are as follows:

Biodiversity Development Assessment Report

4.3.3 Occurrences of human made structures and non-native vegetation (page 43)

We confirm that the OEH South West Planning Team provided advice to the Wagga Wagga office of NGH Environmental about assessment of planted native vegetation. The method used in Section 4.3.3 is based on interim guidance about application of the Biodiversity Assessment Method (BAM) and may not be applicable to future projects.

Figure 6.1 (page 51)

The legend on Figure 6.1 is difficult to read and would be more meaningful if replaced with EIS Figure 3.1.

9.2 Assessment of Serious and Irreversible Impacts (SAIL) (page 68)

The BDAR identifies one potential SAIL ecological community likely to be impacted by the proposal as 0.2 ha of White Box – Yellow Box – Blakely's Red Gum Woodland endangered ecological community (Box-gum woodland EEC). The BDAR correctly notes that there is not yet a threshold for the extent of Box-gum woodland EEC that constitutes a SAIL.

OEH consider the assessment that there is unlikely to be a serious and irreversible impact to the Box-gum woodland EEC at the proposal site to be acceptable. The assessment presented in the BDAR relies on part b) minimising understorey disturbance by removing only overstorey trees during construction of the overhead transmission line to avoid a serious and irreversible impact, so requires a commitment from the proponent to ensure appropriate techniques and site management are employed.

Relevant sections of the EIS do not provide enough detail about how clearing for construction of the transmission line over Boiling Down Creek will occur. For example, *EIS 3.2.5 Transmission line* (page 18) doesn't specify the method of construction or level of clearing required. There is also no information about how future maintenance of the powerline corridor will ensure the current understorey values are maintained, such as observing vehicle hygiene measures to prevent weed incursion or selectively removing only tree species to maintain vegetation at a low height.

Recommended actions:

- *Confirm the level of vegetation clearing required within the transmission line corridor over Boiling Down Creek.*
- *Provide more detail about how impacts will be minimised during construction and on-going maintenance in the SAIL area shown on Figure 9-1. When confirmed, these details should be included with BD4 and BD11 in EIS Section 6.1.8 Safeguards and mitigation measures (page 77).*

10.2 Areas not requiring offsets (page 73).

OEH agree with the assessment of areas not requiring offsets.

Environmental Impact Statement

Section 3.2.8 Perimeter security fencing (page 19)

Mitigation options for impacts to threatened birds and bats could include avoiding use of barbed wire on the top of the security fence.

Section 3.2.11 Landscaping (page 24)

Landscape plantings should be with locally occurring species, particularly in areas adjoining mapped threatened ecological communities.

DPE's standard conditions of consent for solar farms include a requirement for planting with local species.