



Office of  
Environment  
& Heritage

Your reference: SSD 8113  
Our reference: DOC17/440989  
Contact: Andrew Fisher  
Ph 02 6022 0623

Mr Anthony Ko  
Planning Officer  
Resource & Energy Assessments  
Department of Planning & Environment  
GPO Box 39  
SYDNEY NSW 2001

Dear Mr Ko

**RE: Hay Solar Project (SSD 8113) – Hay LGA – Exhibition of Environmental Impact Statement**

I refer to your email dated 25 August 2017 seeking comment from the Office of Environment and Heritage (OEH) about the Environmental Impact Statement (EIS) for the Hay Solar Project (SSD 8113). 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 23 December 2016.

OEH considers that the EIS **does** meet the Secretary's requirements. A summary of our assessment and advice, and recommended conditions of approval, is provided in **Attachment A** and detailed comments in **Attachment B**.

Our main issues relate to the level of assessment of flood impacts, including potential impacts on Flood Dependent Ecosystems. We recommend the preparation of a Cultural Heritage Management Plan prior to construction commencing and that further assessment on the Aboriginal objects that cannot be avoided be undertaken prior to approval of the proposal. We also have some minor issues with the Biodiversity Assessment Report that can be addressed through a revision of that document.

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 Andrew Fisher on (02) 6022 0623 or email [andrew.fisher@environment.nsw.gov.au](mailto:andrew.fisher@environment.nsw.gov.au).

Yours sincerely

*P. E. 21/9/17*

**PETER EWIN**  
**Senior Team Leader Planning**  
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ATTACHMENT A – OEH Assessment Summary for Hay Solar Project Environmental Impact Statement (SSD 8113)  
ATTACHMENT B – Detailed comments for the Hay Solar Project Environmental Impact Statement (SSD 8113)

## ATTACHMENT A OEH Assessment Summary for the Hay Solar Project Environmental Impact Statement (SSD 8113)

### Key Issues

1	<i>Issue</i>	DPE to refer the proposal to WaterNSW. Approval of development in designated floodplains is the legislative responsibility of WaterNSW. They will need to determine whether this development represents a complying or non-complying work, and this will depend upon whether they are of the opinion that it blocks, impedes or diverts the flow path to the Flood Dependent Ecosystem that lies to the north west of the site.
	<i>Extent and Timing</i>	Pre-determination
2	<i>Issue</i>	The Biodiversity Offset Strategy (BOS) will be updated and revised based on the result of each step as the BOS is implemented. Amendments to the BOS must be agreed with OEH to make sure that the retirement of credits associated with this project are consistent with the NSW biodiversity offsets policy for major projects.
	<i>Extent and Timing</i>	Post-determination
	<i>Recommended Condition of Approval</i>	<i>Implement the Biodiversity Offset Strategy as per section 9 of the Biodiversity Assessment Report, and in consultation with OEH. Amendments to the BOS must be agreed with OEH. Retirement of credits associated with this project must be consistent with the NSW biodiversity offsets policy for major projects</i>
3	<i>Issue</i>	The EIS lists land management activities that will be included in a proposed environmental management strategy, without supplying any details.  'Vegetation maintenance' is one of the land management activities that may impact on biodiversity. We have insufficient information to determine whether it includes removal or lopping of native vegetation, in addition to clearing identified as a requirement for construction.  Recommended Conditions of Approval:  Clearing of native vegetation not identified in the EIS is not permitted. Any clearing that is additional or different to that included in the Biodiversity Assessment Report must be assessed for biodiversity impacts and documented accordance with the Framework for Biodiversity Assessment.
	<i>Extent and Timing</i>	Post-determination
	<i>Recommended Condition of Approval</i>	<i>All clearing of native vegetation, which is additional or different to that included in the Biodiversity Assessment Report dated 1 August 2017, and will be cleared or lopped for construction or operation of the proposal, must be assessed for biodiversity impacts and documented accordance with the Framework for Biodiversity Assessment, unless otherwise agreed by OEH. The assessment must be undertaken by a person accredited in accordance with s142B(1)(c) of the Threatened Species Conservation Act 1995.</i>

4	<i>Issue</i>	<p>Mitigation and management actions have been listed on page 64 of the EIS. To ensure that these actions are carried out at the appropriate time, OEH request that the following details are supplied for each mitigation action:</p> <ul style="list-style-type: none"> <li>• who will be responsible for individual actions (including the position title of the officer responsible);</li> <li>• outcome or measure of success; and</li> <li>• when the action will be completed.</li> </ul> <p>These details should be completed before the start of construction to clearly identify the proponent's commitments for management and mitigation.</p> <p>OEH have noticed that Cultural Heritage and Environmental management plans have not been required by DPE for some recently approved developments. If conditions do not require the preparation of individual plans, OEH will need to see more detail for actions relating to biodiversity and Aboriginal cultural heritage before the start of construction.</p>
	<i>Extent and Timing</i>	Pre- and Post-determination

	<i>Issue</i>	<p>The Biodiversity Assessment Report (BAR) contains some minor issues that require clarification:</p> <p><u>Vegetation to be cleared</u></p> <p>The area of native vegetation to be completely removed is stated as both 0.95 and 0.96 hectares in different part of the BAR.</p> <p><u>Low condition vegetation</u></p> <p>The inclusion of 0.01 ha of low condition PCT 15 with moderate-good condition PCT 15 is a departure from the FBA methodology. This needs to be acknowledged and the implication for credit requirements should be stated.</p> <p><u>Paddock trees</u></p> <p>Three paddock trees are proposed for removal within the development area. It should be clearly stated in the BAR to which vegetation zone these paddock trees have been assigned and clarified how this has been dealt with in the credit calculator.</p> <p><u>Timing of survey for threatened plants</u></p> <p>Table 12 states suitable habitat is present for Mossgiel Daisy, Slender Darling Pea and Winged Peppercreess, and that these species were not recorded. Given that the transmission line route was surveyed in May which is outside of the spring/summer timing required for these species, it should be clearly stated in this table that the ground layer will not be impacted.</p> <p><u>Forest owls</u></p> <p>The justification for the reduction in the TS multiplier for Masked and Barking Owls is confusing. The publications cited are not included in the Reference list. This section needs to be reworded and details of the relevant supporting material provided.</p> <p><u>Potential impacts on flood dependent ecosystems</u></p> <p>As noted under the comments on flooding above, the proposed development has the potential to alter the flow of water to the Flood</p>
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		Dependent Ecosystem (Black Box woodland wetland) located to the north west of the site. We consider that this potential impact on should be considered in the section 6.1 of the BAR.  <u>Plains Wanderer</u>  Table 11 states that there is suitable habitat for Plains Wanderer on the development site, but the rationale presented in the section 5.2.1 of the BAR states that there is not suitable habitat for this species on the site. Table 11 needs to be updated to reflect this, consistent with the credit calculator. We suggest a footnote to this line in the table will assist to avoid confusion.
	<i>Extent and Timing</i>	Pre-determination

5	<i>Issue</i>	A Cultural Heritage Management Plan is required
	<i>Extent and Timing</i>	Pre-construction
	<i>Recommended Condition of Approval</i>	<i>A Cultural Heritage Management Plan must be prepared to the satisfaction of OEH and the Registered Aboriginal Parties prior to construction commencing.</i>

6	<i>Issue</i>	Test excavations are required for sites HSF 1 and HSF 2.
	<i>Extent and Timing</i>	Pre-determination

### **OEH Advice**

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|------------|---|------------|
| <b>1.1</b> | <b>Is the 'baseline' for impact assessment reasonable?</b>                                    | <b>Yes</b> |
| <b>1.2</b> | <b>Are predictions of impact robust (and conservative) with suitable sensitivity testing?</b> | <b>Yes</b> |
| <b>1.3</b> | <b>Has the assessment considered how to avoid and minimise impacts?</b>                       | <b>Yes</b> |
| <b>1.4</b> | <b>Does the proposal include all reasonably feasible mitigation options?</b>                  | <b>Yes</b> |
| <b>2.</b>  | <b>Is the assessed impact acceptable within OEH's policy context?</b>                         | <b>Yes</b> |
| <b>3.</b>  | <b>Confirmation of statements of fact</b>   |            |

Statements of fact are correct.

#### **4. Elements of the project design that could be improved**

A more detailed assessment of potential flood impacts is required, rather than just relying on a review of the Hay to Maude Floodplain Management Plan.

The proponent's commitment to mitigation and management actions would be clarified by including details about project stage, timeframes, outcomes and responsibility for each action.

## **ATTACHMENT B Detailed comments for the Hay Solar Project Environmental Impact Statement (SSD 8113)**

### **Flooding**

The site for this proposal has some flooding issues, with an identified flow path (Zone C) traversing the site from east to west as per the Hay to Maude Floodplain Management Plan (FMP) (2014). The EIS does identify this issue through the completion of a “desktop assessment” which is comprised of a review of this FMP and the previous flood study on which it was based. However, the conclusion reached is that “no infrastructure that could obstruct flow is proposed in the central part of the development site”. We do not support this conclusion based on the limited information supplied.

As this development is located within a designated floodplain (as defined in the Hay to Maude FMP), WaterNSW has a role in the assessment of this proposal. They need to determine whether this development represents a complying or non-complying work, and this will depend upon whether they are of the opinion that it blocks, impedes or diverts the flow path to the Flood Dependent Ecosystem that lies to the north west of the site. As they are not listed in the section that addresses Stakeholder Consultation in the EIS, we recommend that WaterNSW be consulted about this as a priority.

However, without having a final design for the facility and a hydraulic model capable of simulating flood flows, it is impossible to effectively determine the impacts on this defined flow path at this stage. Given this we concur with the final recommendation of the Desktop hydrological assessment prepared by Jacobs (Appendix F) that further investigations be undertaken in the detailed design stage, in the form of hydraulic modelling, to determine the impacts on the flow paths traversing the site. We note that a 2D TUFLOW hydraulic model was developed by WMAwater for the purposes of the Hay to Maude FMP, and this would be suitable for assessing the flow impacts across the site during the detailed design stage. The timing of this study may depend on advice obtained from WaterNSW, but we would recommend that this be done prior to approval to give certainty around the impacts on the downstream vegetation.

### **Aboriginal cultural heritage**

The Aboriginal Cultural Heritage Assessment Report reported that 42 sites were located during field assessments. Sites included artefact scatters, hearths, earth mounds, modified trees and two post contact historic sites. The project has been modified to avoid the majority of impacts to Aboriginal cultural heritage (ACH). This is a credit to the proponent for responsible development and OEH recognises that they have worked hard to accomplish this.

A thorough consultation process has been undertaken in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010*. Consultation included active engagement in the field assessment.

Two sites, HSF 1 and HSF 2 cannot be avoided. Both are site complexes comprising hearths and artefact scatters; with HSF 1 in particular being geographically extensive (covering 400 x 200 metres). It is recommended in the ACH assessment that these have test excavation undertaken as part of the Cultural Heritage Management Plan (CHMP). OEH is supportive of this, but the program of subsurface testing should conform to the *Code of Practice for Archaeological Assessment of Aboriginal Cultural Heritage in NSW* (OEH 2010). Specifically, we recommend:

- Absolute dating (OSL, C14 etc) of any in situ hearths where there is viable datable material; and
- Salvage and relocation of lithic artefacts (even if just a representative sample) as part of the testing fieldwork (this could also involve community collection and retention depending on outcomes from consultation).
- If community collection and retention is proposed a Care Agreement would be required to allow the community members to be custodians of the Aboriginal objects.



Given the possibility that the test excavations may reveal a high level of significance associated with these areas, our recommendation is that the proposed testing be done prior to approval, rather than as a condition of the approval. However should consent be given prior to completion of assessments, the outcomes of these assessments would need to be considered in the final design and impact of the proposal. If a recommendation is made that the area should be avoided this may impact on the final layout of the proposed solar array.

Due to the harm proposed to these sites and the potential for additional sites to be encountered, we recommend that a CHMP be prepared prior to construction. This should be developed in consultation and to the satisfaction of both OEH and the RAPs identified in assessment process. It should identify actions to avoid known sites, measures to assess and minimise impacts on the two objects identified above, and incorporate the unanticipated finds and human remains protocols for the proposal.

It should be noted that the assessment also covers historical relics (Recommendation 5). Heritage Division are the appropriate part of OEH to provide feedback in relation to historic cultural heritage and can be contacted on [heritage@heritage.nsw.gov.au](mailto:heritage@heritage.nsw.gov.au) if they have not already been provided with a copy of the assessment.

### **Biodiversity**

The EIS meets the Secretary's requirements for biodiversity assessment. The Biodiversity Assessment Report (BAR) and Biodiversity Offset Strategy (BOS) fulfil the requirements of the Framework for Biodiversity Assessment (FBA). Please note with the commencement of the *Biodiversity Conservation 2016* (BC Act) on the 25 August 2017, the *Threatened Species Act 1995* has been repealed. However, Savings and Transition provisions are in place. The comments below recommend continuation of processes as identified under the previous Offsets Policy (rather than as requirements of the BC Act) but there may be time restrictions within the transitional period that mean that future actions may need to be done in accordance with the more recent legislation.

OEH commends the proponent on the effort made to avoid areas of native grassland, woodland and wetland, as outlined in section 4.3.4 of the BAR.

### **Biodiversity Offset Strategy**

The proposed offset strategy is appropriate. Revisions and updates to the strategy must be agreed with OEH. The conditions relating to the retirement of credits associated with this project must be consistent with the NSW Biodiversity Offsets Policy for Major Projects.

### **Vegetation to be cleared**

The area of native vegetation to be completely removed is stated as 0.96 ha in numerous places (EIS pages E2, 42, 66, 127, 131 and BAR page 64). The area of 0.95 ha is stated in the BAR on pages 52 and 56 (Table 15) and the figures given in the summary on page viii add up to 0.95 ha. This discrepancy needs to be clarified.

### **Low condition vegetation**

The FBA section 5.2.2.5 states that "a vegetation zone must not contain a mix of low and moderate-good condition ....", but 0.01 ha of low condition PCT 15 has been included with moderate-good condition as per text on page 29 and Table 5 (page 31). It is stated that "small low condition areas occurs (sic) under the power lines where canopy has been cleared and groundcover consists of less than 50% native species". This departure from the FBA methodology needs to be acknowledged. As this has been entered in the credit calculator as a single vegetation zone, the implication that this will result in a slightly higher credit requirement should be stated.

### **Paddock trees**

Three paddock trees are proposed for removal within the development area. While this is stated in various places in the BAR (pages ix, 12, 64) it is not clear how the removal of these hollow-bearing trees has been assessed. It is inferred from Figure 4 and the plant species list in Appendix 1 (Table 19) that these are Black Box trees. It should be clearly stated in the BAR to which vegetation zone these paddock trees have been assigned and clarified how this has been dealt with in the credit calculator. If they have not been assigned to a vegetation zone it needs to be clearly identified how they have been incorporated into the final calculations.

### **Timing of survey for threatened plants**

Table 12 states suitable habitat is present for Mossgiel Daisy, Slender Darling Pea and Winged Peppercress, and that these species were not recorded. However, as described in the Methods (page 39), the transmission line route was not finalised until later than the other components and so was not surveyed until May 2017. Each of these species is associated with PCT 15 as per the vegetation types detailed in the BioNet Atlas of NSW Wildlife, and each has spring/summer survey requirements. We note that the proposal is to only remove the tree canopy along the transmission line route so the ground layer would remain undisturbed. While this is demonstrated in Table 14 of the BAR where the management actions after development in Management Zone MZ2a are presented, this should be clearly stated in Table 12 in the justification column rather than just asserting that these plant species will not be impacted by the development.

### **Forest owls**

The TS multiplier has been reduced for forest owls (BAR page 45). The justification presented in this section is confusing. The link between a lack of mature trees and the presence of dead timber is unclear. NPWS (2003) and DECC (2006) are cited but details of these publications are not provided in the Reference list. This section needs to be reworded and details of the relevant supporting material provided.

### **Potential impacts on flood dependent ecosystems**

The vegetation communities on the development site and within the study area have been documented in the BAR to include woodland wetlands and marsh wetlands. As noted under the comments on flooding above, the proposed development has the potential to alter the flow of water to the Flood Dependent Ecosystem (Black Box woodland wetland) located to the north-west of the site. We consider that this potential impact on should be considered in the section 6.1 of the BAR. This should be addressed as an indirect impact, but if it is demonstrated that flooding will be reduced to this area, it may be necessary to calculate the area of vegetation impacted, and identify measures to address these impacts, including potential additional offsets.

### **Plains Wanderer**

Table 11 states that there is suitable habitat for Plains Wanderer on the development site. In the credit calculator, this is shown as 'no'. OEH concurs with the rationale presented in section 5.2.1 (BAR page 40) that the area of native grassland to be removed is only a small area and that is not suitable habitat for Plains Wanderer given the proximity to trees and the level of grassland disturbance. Table 11 needs to be updated to reflect this, consistent with the credit calculator. We suggest a footnote to this line in the table will assist to avoid confusion.

### **Site maintenance**

Section 3.6 of the EIS (page 31) identifies on-going site maintenance as necessary during operation of the project, including vegetation maintenance, weed and pest management, fence and access road management and landscaping. These activities are not detailed in the EIS and are taken to be included in an environmental management plan (EMP) that is yet to be prepared.

There is no description of the activities considered to be 'vegetation maintenance'. If vegetation maintenance during construction or operation includes clearing or lopping that is additional or different to that included in the BAR (dated 1 August 2017), then it must be assessed for biodiversity impacts and documented accordance with the FBA, unless otherwise agreed by OEH. The assessment must be undertaken by a person accredited in accordance with s142B(1)(c) of the *Threatened Species Conservation Act 1995*.

### **Mitigation measures**

The minimum information requirements for Stage 2 of the BAR are listed in Appendix 7 of the FBA (Table 21, page 102). This includes a 'table of measures to be implemented before, during and after construction to avoid and minimise the impacts of the project, including action, outcome, timing and responsibility'. However, this data requirement is not specified in the text of the FBA and is inconsistently applied in BARs submitted to OEH.

Section 6.1.2 of the BAR (page 52) includes recommendations for minimising and mitigating impacts to biodiversity. Section 6.2.4 (EIS page 64) lists the management and mitigation measures for the project, which will be incorporated into an EMP described in Section 3.8 of the EIS (page 32). Neither the BAR or EIS give a timeframe for preparation of the EMP.

To ensure that mitigation and management actions are carried out at the appropriate time, OEH would prefer to see the following details for each mitigation action:

- who will be responsible for individual actions (including the position title of the officer responsible);
- outcome or measure of success; and
- when the action will be completed.

These details should be completed before the start of construction to clearly identify the proponent's commitments for management and mitigation.

**Based on consideration of the above, we recommend the following conditions of development consent:**

- *All clearing of native vegetation, which is additional or different to that included in the Biodiversity Assessment Report dated 1 August 2017, and will be cleared or lopped for construction or operation of the proposal, must be assessed for biodiversity impacts and documented accordance with the Framework for Biodiversity Assessment, unless otherwise agreed by OEH. The assessment must be undertaken by a person accredited in accordance with s142B(1)(c) of the Threatened Species Conservation Act 1995.*
- *Implement the Biodiversity Offset Strategy as per section 9 of the Biodiversity Assessment Report, and in consultation with OEH. Amendments to the BOS must be agreed with OEH. Retirement of credits associated with this project must be consistent with the NSW biodiversity offsets policy for major projects.*