



DOC18/295427  
SSD 6456

Mr Stephen O'Donoghue  
Team Leader – Resource Assessments  
Department of Planning and Environment  
GPO Box 39  
SYDNEY NSW 2001

Dear Stephen

### **Narrabri Gas Project (SSD 6456) – Response to Submissions**

Thank you for your invitation for the Office of Environment Heritage (OEH) to comment on the Response to Submissions for the Narrabri Gas Project.

OEH notes that the project footprint is partly conceptual and that the FBA has been applied to the entire project area in order to establish upper disturbance limits for Plant Community Types (PCTs) and threatened species. OEH further notes that these upper disturbance limits are likely to be over-estimates of the final impact. OEH concurs with this approach.

The draft Biodiversity Offset Strategy (BOS) submitted with the Response to Submissions has demonstrated that suitable offset land is available to meet the requirements of the project. The proponent has proposed supplementary measures that will comprise up to one third of the total offset liability of the project. OEH notes that the proponent is unable to provide details of land-based offsets at this stage.

The NSW Biodiversity Offsets Policy for Major Projects notes that supplementary measures can be used when offsets are not available. While OEH supports the use of supplementary measures, the measures adopted should lead to long-term improvements in biodiversity values and outcomes. Land based offsets should consider connectivity, cultural values, additional biodiversity values, riparian attributes and other such strategic considerations.

OEH advise that the project credit liability, which has been determined under FBA, will need to be converted to reasonably equivalent credits as prescribed under Clause 22 of the *Biodiversity Conservation (Savings and Transitions) Regulation 2017*.

**Attachment A** contains OEH's recommendations while **Attachment B** provides detailed comments on biodiversity and **Attachment C** detailed comments on Aboriginal Cultural Heritage.

Should you require further information regarding issues that are the responsibility of the OEH please contact David Geering on 02 6883 5335 or [david.geering@environment.nsw.gov.au](mailto:david.geering@environment.nsw.gov.au) .

Yours sincerely

A handwritten signature in black ink, appearing to read 'P. Christie'.

**PETER CHRISTIE**  
**Director Regional Operations**  
**North West**

1 June 2018

Contact Officer: David Geering  
02 6883 5335

**ATTACHMENT A****Recommendations****Biodiversity**

1. OEH recommends that all impact areas be ground-truthed to determine whether the PCTs mapped at the impact sites are correct. All variances from the mapped PCT should be reported.
2. Should the PCT not be as mapped the impact may be tracked against the upper disturbance limits for the mapped PCT should it be in the same vegetation class as the impacted PCT.
3. OEH seeks clarification around the potential location of infrastructure where it is known, or likely, that impacts to EECs may occur.
4. Clarification should be provided as to whether any identified indirect impacts may extend beyond 30 years.
5. The research project should include biodiversity offset areas and investigate why apparently suitable areas of habitat may not be occupied by Koalas.
6. OEH recommends that, to more adequately meet the offset requirements for the Koala, that active management actions in areas where Koalas are identified be implemented.
7. A Koala Management Plan is required to guide adaptive management of the Koala population in response to the results of the Koala Research program.
8. OEH recommends adherence to the OEH survey guidelines, particularly in relation to survey periods, when calculating impact for all threatened species.
9. OEH recommends that the DPE include a condition of consent requiring annual reporting of disturbance, with a focus on tracking against the upper disturbance limits.
10. The cost of the individual supplementary components of the strategy should be presented in order to determine the contribution of these measures.
11. An upper limit be applied to the supplementary measures with consideration to the general principles of the NSW Biodiversity Offsets Policy for Major Projects
12. The proponent demonstrates how the feral animal control strategy is above and beyond the expected mitigation measures for the project, mandated management of biodiversity offset areas and current management practices of Forests NSW.
13. OEH recommends that DPE include an approval condition requiring the monitoring of supplementary measures to ensure that credits for the relevant target species are realised.
14. Further justification is required before rehabilitation is deemed to be able to generate species credits.
15. OEH recommends that DPE include an approval condition requiring the monitoring of rehabilitation areas to ensure that the relevant species credits are realised.
16. OEH recommends clearing of native vegetation be scheduled through the life of the project to avoid key breeding seasons for threatened bat and bird species known to reside in the impact area.

**Aboriginal cultural heritage**

17. The CHMP annual reporting must include a summary of matters raised in the Register of Decisions by the Aboriginal cultural heritage working group. The proponent must also ensure that communication of project activities to the community, through the Aboriginal Working Group, is adequately resourced and supported.
18. OEH recommend that the sensitivity map is updated annually.
19. OEH is satisfied that this issue can be managed through observing the progress of the pre-clearance surveys and the updating of sensitivity mapping.

20. A suitably qualified archaeologist must participate in the pre-clearance surveys to assist in the identification of Aboriginal heritage and provide adequate management advice.
21. The CHMP Additional Research Program (section 4.7) must include appropriate skills to assist the community develop and implement additional research.

**ATTACHMENT B****OEH Comments****Biodiversity**

The Biodiversity Assessment Report (BAR) is currently not fully consistent with the requirements of the Framework for Biodiversity Assessment (FBA).

**Exhibition**

OEH highlighted several key requirements of the FBA that had not been fully addressed by the BAR. Among these were the stratification of PCTs in similar broad condition states into separate vegetation zones.

**RTS**

The proponent makes the case that the effect of further stratification on the offset requirements would be negligible.

**OEH Response**

OEH has sought clarification around the placement of some plots and the inclusion of these plots in vegetation zones for PCTs. OEH will review and provide advice upon the provision of this additional information.

OEH has sought clarification around the placement of some plots and the inclusion of these plots in vegetation zones for PCTs.

All vegetation plot data should be used to validate the vegetation mapping to ensure the proposed PCT avoidance measures are correct.

**Exhibition**

The floristic data collected did not match vegetation map at 11% of locations. OEH reviewed the PCT allocations and made suggestions in regards PCTs with a better match. OEH recommended that the vegetation map be validated against all vegetation plot data.

**RTS**

The proponent, while acknowledging that the OEH suggested PCTs could be equally suitable for some plots, maintains that the PCTs assigned are a good fit for the vegetation mapped. No change in vegetation map is proposed. The proponent will seek to avoid EECs identified as not mapped at an impact site. If avoidance not possible, the impact will count towards the upper clearing limit for that EEC.

**OEH response**

1. OEH recommends that all impact areas be ground-truthed to determine whether the PCTs mapped at the impact sites are correct. All variances from the mapped PCT should be reported.
2. Should the PCT not be as mapped the impact may be tracked against the upper disturbance limits for the mapped PCT should it be in the same vegetation class as the impacted PCT.

OEH still has concerns that the PCTs impacted may not be reflected in the vegetation map. There is a likelihood that the actual impact on PCTs will be different to that calculated by the mapping. For EECs this may be significant.

OEH recommends that all impact areas be ground-truthed to determine whether the PCTs mapped at the impact sites are correct. Should the PCT not be as mapped the impact may be tracked against

the upper disturbance limits for the mapped PCT should it be in the same vegetation class as the impacted PCT. Disturbance to EECs must be tracked against impacted PCTs. All variances from the mapped PCT should be reported. Where variances from the upper disturbance limits are significant against that predicted, a modification to capture the variation in the credit obligation may be required. This will allow DPE to track the actual PCTs cleared, and should they vary significantly from the mapped PCTs, DPE may consider varying the approval.

## Ranking and weighting of decision criteria used in the Ecological Sensitivity Analysis (ESA)

### **Exhibition**

OEH suggested that the rankings underpinning the ESA be reviewed and a weighting reflecting the ranking applied. OEH provided a table with suggested rankings and associated weighting.

### **RTS**

A detailed review of OEH suggested rankings and weightings was undertaken. It was determined that the suggested changes would have a negligible effect on the outcome of the ESA. No change to analysis is proposed.

### **OEH response**

OEH is satisfied that this issue has been addressed.

## Total ecosystem credit liability and offset liability.

### **Exhibition**

Inconsistent information around the total number of ecosystem credits required for direct impacts was provided in BAR and BOS in EIS.

### **RTS**

The RTS provides a revised draft BOS with the credit requirement for the project.

### **OEH response**

OEH is satisfied that this issue has been addressed.

## Rehabilitation

### **Exhibition**

The project proposal is to partially rehabilitate 586.66 ha of disturbed land within 12 months of clearing.

### **RTS**

OEH has been having discussions with the proponent and DPE regarding rehabilitation and possible calculation methods for the generation of credits. OEH requested that the benefit of rehabilitation be calculated as part of the BOS after calculation of credits for impact rather than part of impact calculations.

The proponent is requesting a 17% increase on the maximum number of credits able to be generated using BioBanking credit calculator (12 credits/ha).

### **OEH response**

OEH notes that the calculation method is consistent with that requested by OEH and is satisfied that this issue has been addressed.

## Avoidance of threatened ecological communities (TECs)

### Exhibition

The proponent has previously committed to avoiding all direct impacts to Carbeen Open Forest Endangered Ecological Community (EEC). The BAR indicates that the proponent proposes to impact up to 0.10 hectares of Weeping Myall EEC (PCT 27), 5.9 hectares of Fuzzy Box Woodland EEC (PCT 202), and 19.3 hectares of Brigalow EEC (PCT 35). OEH recommended that the proponent should seek to avoid Weeping Myall Woodland EEC, Fuzzy Box Woodland EEC, TSC Act listed Brigalow EEC and, EPBC listed Brigalow EEC in good condition.

### RTS

The RTS suggests that it is not possible to completely avoid all endangered ecological communities and that the ecological scouting framework prioritises the avoidance and minimisation of impacts to EECs.

### OEH response

3. OEH seeks clarification around the potential location of infrastructure where it is known, or likely, that impacts to EECs may occur.

OEH seeks clarification around the potential location of infrastructure where it is known, or likely, that impacts to EECs may occur. Impact sites should be ground-truthed to ensure that the predicted upper disturbance limits are not exceeded, rather than relying on the vegetation mapping.

## Proposed 70% reduction in the value of indirect credits.

### Exhibition

The proponent has calculated the credit value of indirect impacts to be 10% of a 10-metre buffer applied to all linear infrastructure and 10% of a 50-metre buffer for well pads, the Bibblewindi site, and the workers accommodation. The total number of credits was then multiplied by 0.3 based on an assumed maximum period of 30 years over which indirect impacts may occur.

### OEH response

4. Clarification should be provided as to whether any identified indirect impacts may extend beyond 30 years.

## Where the number of plots has not been satisfied, only the plot closest to benchmark should be replicated

### Exhibition

Fewer than the required number of plots were sampled for a number of PCTs. OEH recommended that only data from the plot closest to benchmark (with the highest summed site attribute score) be replicated to make up the minimum number of plots required.

### RTS

Additional plots have been completed for the PCTs that had the fewer than required plots sampled.

### OEH response

OEH is satisfied that this issue has been addressed.

Where the number of plots for an individual derived native grassland PCT has not been satisfied the plot data from that PCT only should be replicated

**Exhibition**

Plot data for individual DNG PCTs should be duplicated to make up shortfalls identified in the credit calculator. Pooled data should only be used where no plot data for a DNG PCT was collected.

**RTS**

Additional plots have been completed for derived native grassland for the PCTs that had the fewer than required plots sampled.

**OEH response**

OEH is satisfied that this issue has been addressed.

Credits should be calculated for each vegetation zone and condition class combination

**Exhibition**

The FBA requires each vegetation zone and condition class combination to be entered into the credit calculator to determine the credit liability of the combination. Only two condition classes for each vegetation zone (native vegetation and DNG) was included in the credit calculator.

**RTS**

The RTS maintains that broad condition states, as required by the FBA, were used – ‘native vegetation’ and ‘derived native grassland’ despite further stratification being developed for the vegetation mapping. A review of remnant native vegetation identified 88% as in ‘good’ condition, 11% in ‘moderate’ condition and less than 1% in ‘low’ condition. The vast majority of vegetation is in the same ‘broad condition state’. Given the large range of values for each attribute in the benchmarks for vegetation condition in the project area it is considered that the change from benchmark to low condition would be significant. A detailed review of site value scores was undertaken between the further levels of stratification. This review determined a 7% variance between the site value scores of ‘good’ and ‘moderate’ condition states. All vegetation was therefore considered to be in same ‘broad condition state’ for the purposes of the FBA. Due to the relatively low proportion of vegetation in ‘moderate’ and ‘low’ condition states the effect of further stratification on offset requirements would be negligible.

**OEH response**

OEH is satisfied that this issue has been addressed.

The study area provides potential habitat for the koala and impact credits for the koala should be calculated

**Exhibition**

OEH requested that either further assessment and credit calculation of the impact on the koala is undertaken or an expert report is required to assess the likelihood of occurrence of the koala in the study area.

**RTS**

The proponent has acknowledged that Koala habitat occurs within the project area and have calculated the credit requirement as 30,454 species credits.

**OEH response**

OEH is satisfied that this issue has been addressed.



The proposed koala research proposal is unlikely to comprise 10% of the total offset liability

#### **Exhibition**

OEH requested that the proponent demonstrate what portion of the total offset package that the koala research proposal will comprise.

#### **RTS**

A Koala research proposal is included in the Biodiversity Offset Strategy as a supplementary measure. This proposal is currently valued at approximately \$70,000, under the required 10% cap of the total offset package.

#### **OEH response**

5. The research project should include biodiversity offset areas and investigate why apparently suitable areas of habitat may not be occupied by Koalas.
6. OEH recommends that, to more adequately meet the offset requirements for the Koala, that active management actions in areas where Koalas are identified be implemented.
7. A Koala Management Plan is required to guide adaptive management of the Koala population in response to the results of the Koala Research program.

OEH notes that the research program is designed to determine the location and size of remnant Koala populations in the Pilliga; however, no active management actions are proposed. OEH recommends that the research project should include biodiversity offset areas and investigate why apparently suitable areas of habitat may not be occupied by Koalas.

To more adequately meet the offset requirements for the species, a Koala Management Plan is required to guide adaptive management of the Koala population in response to the results of the Koala Research program.

Further assessment of the spotted-tailed quoll and rufous bettong is required

#### **Exhibition**

OEH was concerned that the level of fauna survey effort for the Spotted-tailed Quoll and Rufous Bettong was not in full accordance with OEH guidelines. There is potential that both species are likely to occur. OEH recommended that either an expert report prepared or the species are assumed to be present and species credits should be calculated.

#### **RTS**

The RTS iterated that the Spotted-tailed Quoll is an ecosystems credit species and not a species credit therefore an offset is not required. The Rufous Bettong was surveyed with 1500 trap nights using remote cameras. As there are very few records in the Pilliga and none in project area the proponent has assumed that the species will not be impacted by the project. An expert report or calculation of credits is not proposed for either species.

#### **OEH response**

OEH is satisfied that this issue has been addressed; however, the Spotted-tailed Quoll is listed as an EPBA Act-listed threatened species in the referral documentation received from the Department of the Environment and Energy (DoEE). Under the Bilateral Agreement with the DoEE the OEH will need to assess impacts and potential offsets for this species.

The BAR does not indicate if *Myriophyllum implicatum* will be impacted by the NGP

#### **Exhibition**

The BAR identifies *Myriophyllum implicatum* as occurring in the project area but didn't contain an assessment of the likelihood to be impacted by the project.

#### **RTS**

The proponent has indicated that no impact to *Myriophyllum implicatum* is proposed so no upper disturbance limit has been modelled. The ecological scouting framework prioritizes the avoidance of threatened species.

#### **OEH response**

OEH is satisfied that this issue has been addressed.

It is unclear how the impacts on *Lepidium aschersonii* and *Lepidium monolocoides* have been calculated

#### **Exhibition**

The BAR identified small impacts on *Lepidium aschersonii* and *L. monolocoides* but did not indicate how the impacts were calculated

#### **RTS**

Targeted surveys for both species has now completed and the upper disturbance limits for each of these species revised.

#### **OEH response**

8. OEH recommends adherence to the OEH survey guidelines, particularly in relation to survey periods, when calculating impact for all threatened species.

The Field Development Protocol does not clearly identify the process for calculating the number of individuals to be impacted, this is important to demonstrate that impacts are within the predicted upper disturbance limit. OEH recommends adherence to the OEH survey guidelines, particularly in relation to survey periods, when calculating impact for all threatened species.

A monitoring report framework is required to monitor and assess the proponent's ability to achieve the proposed minimisation measures of not exceeding the proposed disturbance limits

#### **Exhibition**

OEH requested a monitoring report framework documenting the clearing of all PCTs and threatened flora and fauna habitat areas within the proposed upper disturbance limits.

#### **RTS**

The Field Development Protocol provides the framework for this reporting.

#### **OEH response**

9. OEH recommends that the DPE include a condition of consent requiring annual reporting of disturbance, with a focus on tracking against the upper disturbance limits.

OEH recommends that the DPE include a condition of consent requiring annual reporting of disturbance, with a focus on tracking against the upper disturbance limits.

A reporting framework should be developed to document individual site assessments and the results of the ecological scouting framework.

See Recommendation 10.

The proponent prepare a table that clearly identifies the impacts 'carried forward' from previous projects and to be offset under the NGP.

#### **Exhibition**

The BAR identified existing projects with impacts 'carried forward' but did not identify the infrastructure against requiring offsetting.

#### **RTS**

The infrastructure carried forward has been identified in Figure 2 of the updated BOS. An offset of 4,784 ecosystem credits for 79.3 ha of direct impact is required for this infrastructure.

#### **OEH response**

OEH is satisfied that this issue has been addressed.

OEH is unable to review the proposed offset strategy as details of the strategy have not been provided in the EIS.

#### **Exhibition**

The BOS provided as part of the EIS did not fulfil the requirements of the FBA. The proponent had not demonstrated that they undertook 'all reasonable steps' before considering supplementary measures. A nil-tenure feral animal control strategy was proposed as a supplementary measure that comprised one third of the total offset liability of the project. Details of this program were not provided.

#### **RTS**

A revised draft BOS has been provided. The BOS clearly states Offsets Policy & FBA are in transition and that the consent authority may vary the application of the policy or FBA to address perverse outcomes suggesting that the BOS is not likely to conform to the FBA.

The credits wanted register was searched on 27 February 2017 with no land that could substantially satisfy the requirements of the project being identified. A search of the BioBanking register on 14 December 2017 identified no suitable ecosystem credits.

Three properties totalling 3,297 ha were identified through the BioBank expressions of interest process. These properties have the potential to acquit 50% of the total offset liability.

An additional 11 potential properties with the required vegetation communities were identified for sale. These properties had a total value of \$8.5M.

The proponent has demonstrated that suitable offset land is available to meet the requirements of the project. However, the proponent argues that the value of adding 6,408 ha of land to the reserve system is questionable and that the use of supplementary measures to fund a nil-tenure feral animal control strategy is likely to result in a much greater positive impact. The RTS indicates that this strategy will be up to one third of the total financial offset liability of the project.

#### **OEH response**

10. The cost of the individual supplementary components of the strategy should be presented in order to determine the contribution of these measures.
11. An upper limit be applied to the supplementary measures with consideration to the general principles of the NSW Biodiversity Offsets Policy for Major Projects

12. The proponent demonstrates how the feral animal control strategy is above and beyond the expected mitigation measures for the project, mandated management of biodiversity offset areas and current management practices of Forests NSW.
13. OEH recommends that DPE include an approval condition requiring the monitoring of supplementary measures to ensure that credits for the relevant target species are realised.

While the proponent has presented a BOS there is insufficient information to determine whether the strategy has the capacity to meet the credit requirement for the project, particularly species credits.

The BOS does not provide specific information relating to properties that may potentially be included in the offset package. While OEH acknowledges the difficulties relating to disclosing the location of these properties, the BOS does not indicate to what extent land-based offsets will contribute to the total offset package. OEH recommends that consideration be given to ensuring that land-based offsets make a valuable contribution to the conservation of biodiversity in the Pilliga.

To gain a better understanding of the contribution of individual supplementary packages that comprise the offset strategy, OEH recommends that the cost of the individual components be presented in order to determine the contribution of these measures.

OEH recommends that an upper limit be applied to the supplementary measures with consideration to the general principles of the NSW Biodiversity Offsets Policy for Major Projects (the Policy). This will require the proponent to calculate the total cost of the supplementary measures in accordance with Appendix B of the Policy.

Where supplementary measures are utilised, OEH recommends that DPE include an approval condition requiring the monitoring of these measures to ensure that credits for the relevant target species are realised.

It needs to be demonstrated the extent to which the tenure feral animal control strategy is above and beyond the expected mitigation measures for the project, mandated management of biodiversity offset areas and current management practices of Forests NSW.

## Generation of species credits from rehabilitation

### RTS

The BOS indicates that the total species credit requirement for the project is 1,418,928 credits for flora and 332,106 credits for fauna.

The proponent has suggested that rehabilitation will generate 332,106 credits for flora and 3,510 for fauna (Black-striped Wallaby). Table 3 of the BOS indicates that seven flora species respond positively to disturbance and rehabilitation. *Tylophora linearis* is listed in Table 3 as likely to respond positively to disturbance and rehabilitation; however, Table 5 indicates that it does not respond positively with no rehab credits generated.

A total of 332,106 credits are generated by rehabilitation for flora species. This reduces the credit liability to 1,086,822 credits for flora species.

The BOS also suggests that the Black-striped Wallaby will benefit from rehabilitation as it prefers dense vegetation for sheltering. The formula provided includes the area of habitat directly impacted suggesting that only rehabilitated areas in areas occupied by the Black-striped Wallaby will generate 3,510 species credits. This reduces the species credit liability for fauna to 135,296 credits.

### OEH response

14. Further justification is required before rehabilitation is deemed to be able to generate species credits.
15. OEH recommends that DPE include an approval condition requiring the monitoring of rehabilitation areas to ensure that the relevant species credits are realised.

Based on the information provided, OEH has concerns regarding the expectation for a positive response from the nominated species credit species.

Further justification is required before rehabilitation is deemed to be able to generate species credits. Rehabilitation areas must be within the current known area of occupancy for the species concerned and a justification for the credit gain be provided either from a demonstrated gain in existing rehabilitation areas or from literature.

Where rehabilitation is deemed to be able to generate species credits, OEH recommends that DPE include an approval condition requiring the monitoring of rehabilitation areas to ensure that the relevant species credits are realised.

A vegetation clearing window should be nominated that will minimise impacts to fauna species.

#### **Exhibition**

The BAR indicated preferred clearing times of March to June, otherwise February & July-August and September – January.

OEH requested that the proponent nominate a clearing window for woodland and forest that will avoid key breeding or hibernation seasons for threatened bat and bird species known to occur in the development site. Other land disturbance activities (such as mulching, topsoil removal and the removal of regrowth in previously cleared areas) may occur year-round.

#### **RTS**

The RTS indicated that 494 ha of clearing will occur outside the preferred time of March to June with 197 ha being cleared during September – January.

#### **OEH response**

16. OEH recommends clearing of native vegetation be scheduled through the life of the project to avoid key breeding seasons for threatened bat and bird species known to reside in the impact area.

It is OEH's preference that no clearing occurs in threatened bird and bat breeding locations during key breeding seasons. OEH is satisfied that clearing may occur in less sensitive habitats should it be demonstrated that the ESA will be sufficient to avoid adverse impacts to hollow-bearing trees and trees containing nests.

OEH recommends that DPE specifies that clearing of native vegetation be scheduled through the life of the project to avoid threatened bird and bat breeding locations during key breeding seasons.

It is unclear if treated water will be applied to forested areas

#### **Exhibition**

The EIS indicated that post stage 5 treated water would be suitable for a range of purposes including irrigating local soils in forested areas. OEH sought clarification as to whether treated water was to be applied to forested and rehabilitation areas.

#### **RTS**

The proponent has confirmed that there is no proposal to irrigate in forested areas for rehabilitating native vegetation.

#### **OEH response**

OEH is satisfied that this issue has been addressed.

The number of regent honeyeater impact credits is to be calculated as agreed by the proponent on 22 March 2017

**Exhibition**

The EIS be updated to reflect the offset requirements for the regent honeyeater using the PCTs associated with regent honeyeater as listed in the Threatened Species Profile Database (TSPD)

**RTS**

The proponent has calculated an offset requirement for the Regent Honeyeater.

**OEH response**

OEH is satisfied that this issue has been addressed.

**Additional minor issues**

**OEH response**

OEH is satisfied that these issues have been addressed.

**ATTACHMENT C****Aboriginal cultural heritage****Aboriginal consultation****Exhibition**

OEH reviewed and accepted the consultation undertaken by Narrabri Gas. The consultation undertaken was consistent with the requirements of the SEARs including the development of the CHMP.

The OEH submission raised the importance of maintaining clear advice to the Registered Aboriginal Parties (RAP) on the actions proposed for the CHMP throughout the life of the project. OEH reasons are:

- high number of registered parties (n=556),
- the size of the project area, and
- the unconventional construction method which relies on assessments to continue as part of the authorised actions of the ACHMP.

**RTS**

Acknowledged OEH acceptance of consultation undertaken but does not intend to maintain consultation with registered parties but will engage as per described in the Plan. The proponent reiterates that the select members of the Community Consultation Committee receive agenda items and minutes including the Aboriginal community.

**OEH response**

17. The CHMP annual reporting must include a summary of matters raised in the Register of Decisions by the Aboriginal cultural heritage working group. The proponent must also ensure that communication of project activities to the community, through the Aboriginal Working Group, is adequately resourced and supported.

OEH is not intending the proponent to re-engage with the 556 RAPs registered in the project. OEH does insist that the Aboriginal people directly involved in delivering the CHMP actions are provided adequate support to disseminate information to their represented community as referred to in section 4.3 of the CHMP. The proponent identifies the community in this instance as, the Narrabri Local Aboriginal Land Council, Wee Waa Local Aboriginal Land Council and the Gomerioi Native Title applicant.

OEH expects that the project communication to the Aboriginal community is effective and transparent. OEH analysis of the consultation undertaken for the EIS and CHMP concluded that the project size and complex governance proposal for overseeing ACH works was unfamiliar to the RAPs and challenging for the proponent to communicate. This was confirmed in public submissions. OEH request that a summary of matters raised in the Register of Decisions, as described in clause 9 of Schedule 6, is made available in the annual report.

OEH will assess the effectiveness of community communication and the actions of the CHMP by participating in the Review Consultation Committee and make recommendation to DPE on OEH findings.

**Cultural Heritage Management Plan****Exhibition**

OEH expressed that the CHMP is a suitable and working document that clearly outlined measures to avoid and minimise harm to Aboriginal objects. OEH supported the establishment of the Aboriginal Cultural Heritage Working Group and the registration of identified Aboriginal heritage sites onto AHIMS.

**RTS**

Acknowledged response from OEH.

**OEH response**

OEH has reviewed and accepts the proposed CHMP.

### Site validation process

**Exhibition**

OEH raised concerns that the EIS field surveys were hindered by forest vegetation which may have affected ground surface conditions for sighting Aboriginal objects. OEH therefore recommended that the proponent consider an appropriate strategy to overcome difficulties of ground surface visibility during the pre-clearance surveys.

**RTS**

The proponent maintain that their results were not hampered by dense vegetation cover but provisions can be made to monitor areas of dense vegetation in the CHMP.

**OEH response**

OEH is satisfied that this issue has been addressed and notes that the CHMP will make provisions to monitor construction activities in areas of dense vegetation for areas likely to have Aboriginal sites.

### Landform and Sensitivity

**Exhibition**

OEH raised concerns about the proponent's sensitivity map and questioned the reasons as to why the landform category of Soil mantled slope is considered sensitive compared to some of the smaller landforms dominated by creeks where Aboriginal sites occur.

**RTS**

The proponent maintain that their results are sufficient to distinguish sensitivity and that there is no definitive correlation between landform and water features and Aboriginal sites (at this point in time). As a result, the proponent argues that the issue of mapping and sensitivity is a moot point because sites will be avoided and because pre-clearance surveys will improve site data.

**OEH Position**

18. OEH recommend that the sensitivity map is updated annually.

OEH notes that highly sensitive sites will be avoided and that the proposed mitigated harm to objects (stone artefacts) is minimal. OEH maintain that known Aboriginal sites listed on AHIMS show correlation with water features and various landform but concur that the project pre-clearance surveys will confirm or otherwise the conventional understanding of Aboriginal site distribution patterns. The proponent's sensitivity map remains an important tool to guide the project as new information about sites emerge during the pre-clearance surveys. OEH therefore recommend that the sensitivity map is updated annually to improve the quality of the map in the short term, rather than the 5-year period proposed in the Plan.

### Aboriginal heritage site avoidance and buffer distance

**Exhibition**

OEH accepted the avoidance principle for sites but queried the methods for determining the boundaries around sites.

**RTS**

The proponent has repeated the same approach described in the EIS.



## **OEH response**

19. OEH is satisfied that this issue can be managed through observing the progress of the pre-clearance surveys and the updating of sensitivity mapping.

OEH note that the approach has not been modified. This issue is linked to the discussion points on landform sensitivity, pre-clearance surveys and subsurface testing. It is therefore best managed through observing the progress of the pre-clearance surveys and the updating of sensitivity mapping.

## Aboriginal heritage site pre-clearance surveys

### **Exhibition**

OEH recommend that (due to the uncertainty of the sensitivity map) that the pre-clearance surveys consist of an archaeologist for all pre-clearance surveys. The archaeologist (or archaeology team) must be suitably skilled to accomplish the tasks listed in the CHMP. Including, capable of identifying the necessity of, and overseeing, sub-surface testing in areas likely to contain subsurface artefacts.

### **RTS**

The proponent has modified the CHMP to include sub-surface testing with reference to the Code of archaeological practice (DECCW 2010) and emphasised that the majority view of the RAPs is that they are the expert of their heritage and they will appoint the appropriate expert.

### **OEH Position**

20. A suitably qualified archaeologist must participate in the pre-clearance surveys to assist in the identification of Aboriginal heritage and provide adequate management advice.

OEH note that the public submissions raised concerns about the adequate expertise needed to undertake the actions of the CHMP due to uncertainty about the approach adopted by the proponent when undertaking the EIS and the actions proposed in the CHMP.

OEH insist that expertise is needed to ensure that the project activities avoid harm to ACH values, in the first instance and develop reasonable and proportionate mitigation to minimise harm in appropriate circumstances. Equally, because the project will continue to investigate ACH post project approval an expert must be used for all pre-clearance surveys.

The NSW guidelines and policies recognise Aboriginal people as the primary determinates of the cultural significance of their heritage. OEH reject the assertion by the proponent that having an appointed expert diminishes the rights of Aboriginal people to determine their heritage. An expert brings specialised investigative skills to an ACH assessment that are necessary to make adequate assessment of potential threats to Aboriginal heritage.

The role of the expert is critical to guide and advise the community and proponent to manage Aboriginal cultural heritage specific to the actions of the CHMP. The proponent must therefore ensure that adequate expertise is available to fulfil the responsibilities listed in the Plan.

The OEH position is that the appointed expert will be a suitably qualified archaeologist capable of interpreting the Aboriginal archaeology of the Pilliga region.

## Aboriginal cultural heritage additional research program

### **Exhibition**

OEH had stated that the proponent's EIS & draft CHMP refer to the possibility of anthropology and historian studies. OEH recommended that a suitably qualified person should be commissioned to assist the community in developing anthropological or historical research studies.

### **RTS**

Santos refute that it states in the EIS and CHMP that it will undertake an anthropological study.

## OEH response

21. The CHMP Additional Research Program (section 4.7) must include appropriate skills to assist the community develop and implement additional research.

In circumstance where it is necessary to record, interpret and advise on the historic and contemporary cultural values, a suitably qualified anthropologist and or historian must be made available to the Aboriginal community to advise and progress research pertaining to the project area (this is relevant to section 4.7 of the CHMP).

Anthropological activities are referred to in Schedule 3 of the CHMP, the CHMP glossary definition of an expert, and in the Additional Research Program (s.4.7) to be implemented through the Plan over a 12-month period (page 12).  
commend that

## Final comment

OEH expects that the current amendments to the CHMP will improve the information gathering about Aboriginal site patterns relative to the project construction locations. The annual review process is adequate to assess the current management proposal for ACH and adjust if required. OEH will accept future invitations to participated in the annual reviews.

The proponent has stated in response to public submissions that it will refer to the Code of archaeological practice and consult with OEH on the key issues of sub-surface testing (pp 6-184, 192). This is a satisfactory outcome because it is unknown what volume of archaeological material exists below the surface in the Pilliga forests and whether higher frequencies and densities of stone artefacts are concealed or if the current surface findings of low frequency of artefacts is indicative of the archaeological record. The subsurface archaeological investigation which will provide data to interpret the characteristics of Aboriginal sites in the project area.

The sub-surface testing and pre-clearance surveys will require appropriate professional expertise to assist and ensure that the proponent is compliant with the actions listed in the Plan and to accomplish its stated objective, avoidance of harm to Aboriginal sites.