

GLNG

Annual Environmental Return 2013 EPBC NO 2008/4096 Gas Transmission Pipeline

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1 INTRODUCTION

On 22 October 2010 the GLNG Project proponents, Santos Limited and PETRONAS Australia Pty Ltd (**GLNG**) received approval from the then Minister for Sustainability, Environment, Water, Population and Communities to develop, construct, operate and decommission a 430 km pipeline network (**Gas Transmission Pipeline or GTP**) to link coal seam gas fields to a proposed LNG facility on Curtis Island as described in referral EPBC No 2008/4096 (**EPBC Approval**).

The 2013 Annual Environmental Return (**2013 AER**) has been developed to satisfy Condition 62 of the EPBC Approval.

Condition 62 states:

62. The Proponent must produce an Annual Environmental Return, which:

- a) addresses compliance with these conditions;*
- b) records any unavoidable adverse impacts on MNES, mitigation measures applied to avoid adverse impacts on MNES, and any rehabilitation work undertaken in connection with any unavoidable adverse impact on MNES;*
- c) identifies all non-compliances with these conditions; and*
- d) identifies any amendments needed to plans to achieve compliance with these conditions.*

The 2013 AER is structured as follows:

- Section 2 addresses the matters required by Condition 62(a);
- Section 3 addresses the matters required by Condition 62(b);
- Section 4 addresses the matters required by Condition 62(c); and
- Section 5 addresses the matters required by Condition 62(d).

Condition 63 of the EPBC Approval also states:

63. The proponent must publish the Annual Environmental Return on the on its website within 20 business days of each anniversary date of this approval.

The relevant anniversary date of the EPBC Approval for the purposes of the 2013 AER is 22 October 2013.

The 2013 AER covers the period 22 October 2012 – 22 October 2013 (**AER Period**) and will be published on the internet by 19 November 2013.

2 COMPLIANCE WITH CONDITIONS – CONDITION 62(a)

The table provided in Appendix A demonstrates how GLNG has or is addressing each of the conditions imposed by the EPBC Approval.

3 MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE – CONDITION 62(b)

3.1 Unavoidable Adverse Impacts on MNES

GLNG commenced construction of the Gas Transmission Pipeline (GTP) during the previous AER Period (AER 2012). During the AER Period, GLNG continued to progress with

construction along the GTP in accordance with the EIS for the GLNG Project and the EPBC Approval.

Unavoidable impacts for those listed threatened ecological communities and potential habitat for listed threatened species or migratory species set out in conditions 11 and 12 as a result of the GTP construction during the AER Period were as follows:

Table 1: EPBC Listed threatened ecological communities			
Ecological Community	EBPC Status	Disturbance Limit (ha)	Actual Disturbance (ha)
Brigalow (<i>Acacia harpophyllia</i> dominant and co-dominant)	Endangered	22.0	7.42
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nadewar Bioregions	Endangered	2.4	1.08
Species	EBPC Status	Disturbance Limit (ha)	Actual Disturbance (ha) or Individual Numbers Encountered
<i>Cycas megacarpa</i> (Large-fruited Zamia)	Endangered	27.8	18.99 ha
<i>Philotheca sporadica</i>	Vulnerable	N/A	0 ind.
<i>Cadellia pentasyllis</i> (<i>Ooline</i>)	Vulnerable	N/A	
<i>Paradelma orientalis</i> (<i>Brigalow Scaly-foot</i>)	Vulnerable	N/A	5 ind.
<i>Furina dunmalli</i> (<i>Dunmall's snake</i>)	Vulnerable	N/A	2 ind.
<i>Egernia rugosa</i> (<i>Yakka skink</i>)	Vulnerable	N/A	0 ind.
<i>Geophaps scripta scripta</i> (<i>Squatter pigeon – southern</i>)	Vulnerable	N/A	4 ind.
<i>Nyctophilus timoriensis</i> (<i>Eastern Long-eared bat</i>)	Vulnerable	N/A	0 ind.
<i>Chalinolobus dwyeri</i> (<i>Large-eared Pied bat</i>)	Vulnerable	N/A	0 ind.
<i>Xeromys myoides</i> (<i>Water mouse</i>)	Vulnerable	N/A	0 ind.

Threatened species or migratory species encountered during construction of the GTP during this AER Period for those species not identified in Conditions 11 or 12 were as follows:

Table 2: EPBC Listed species		
Species	EBPC Status	Individual Numbers Encountered
<i>Xerothamnella herbacea</i>	Endangered	42 ind.
<i>Delma torquate</i> (<i>Collared delma</i>)	Vulnerable	5 ind.

3.2 Mitigation Measures Applied to Avoid Adverse Impacts on MNES

The Significant Species Management Plan (SSMP) has been developed based on pre-clearance ecological surveys to include MNES species as listed in conditions 11 and 12 of the EPBC Approval as well as those encountered that were not already referred to in the EPBC Approval. Works did not commence within a construction area where the relevant MNES listed in Conditions 11 and 12 were located until the applicable SSMP had been approved by the Department. Where MNES species not mentioned in the EPBC Approval were potentially

located or encountered, construction was suspended in the relevant area until a SSMP for the species or ecological community had been submitted and approved.

Specific preventative actions and mitigation measures as detailed in the relevant SSMP and Aquatic Values Management Plan (AVMP) have been applied during construction in order to minimise adverse impacts on MNES.

3.3 Rehabilitation Work Undertaken in Connection with any Unavoidable Adverse Impacts on MNES

Reinstatement works has been completed and/or commenced in a number of areas along the GTP following installation, however no rehabilitation works have been completed to date. Rehabilitation work has been commenced following the completion of reinstatement in areas between Kilometre Point (KP) 0 and KP 130, this area is identified as potential habitat for several listed threatened species including Ooline (*Cadellia pentasyllis*), *Xerothamnella herbeaca*, squatter pigeon (*Geophaps scripta scripta*) and Brigalow, among others.

Rehabilitation works in areas yet to be commenced will be done so as soon as reasonably practicable following the completion of construction activities.

4 NON-COMPLIANCES – CONDITION 62(c)

Potential non-compliances with the EPBC Approval have occurred within the AER period as per the table below. All incidents have been reported to DOTE (formally SEWPaC) in accordance with the requirements of Condition 58.

Date	Location	Incident Type
27/10/2012	The Narrows/ Marine Crossing	Minor diesel leak (1L) occurred while accessing a borehole in the Narrows between the mainland and Curtis Island.
18/11/2012	Camp 1/ Mainland	Treated effluent spill from Sewage Treatment Plan.
29/11/2012	Camp 1/ Mainland	Treated effluent spill from Sewage Treatment Plant.
21/12/2012	Camp 1/ Mainland	Release of sediment laden water from sediment basin.
22/12/2013	Christmas Creek/ Mainland	Release of sediment laden water.
22/01/2013	KP25-28/ Mainland	Disturbance to trees and vegetation during clearing of debris from access tracks.
24/01/2013	Launch Pad/ Marine Crossing	Release from sediment pond.
31/01/2013	Launch Pad/ Marine Crossing	Release of sediment laden flood water from sediment basin.
22/02/2013	KP23 & KP24.8/ Mainland	Release of sediment from site.
26/02/2013	Launch Pad/ Marine Crossing	Release of sediment from Launch Pad site.
17/04/2013	Camp 3/ Mainland	Treated effluent spill from Sewage Treatment Plant.
19/04/2013	Edwards Creek/ Mainland	Release of sediment from water trucks.
28/04/2013	KP224/ Mainland	Vegetation clearing during widening of GTP construction right of way
01/05/2013	The Narrows/ Marine Crossing	Bentogrout release to mudflats through boreholes.
16/05/2013	KP245-312 & KP327-338/ Mainland	Release of sediment laden water from multiple locations along the GTP construction right of way.

28/05/2013	Fairview Road/ Mainland	Application of saline trench water to road for dust suppression.
13/06/2013	KP25-KP34/ Mainland	Releases of sediment laden water from site.
13/06/2013	KP131-142/ Mainland	Releases of sediment laden water from multiple locations along the GTP.
19/06/2013	Spring Creek/ Mainland	Release of sediment laden water during trenching activities within Spring Creek.
24/07/2013	Launch Pad/ Marine Crossing	Release of sediment laden water release from Waste Water Treatment Plant.
18-20/09/2013	Calliope River/ Mainland	Releases of sediment laden water during trenching.
23 & 25/09/2013	Larcom Creek & Calliope River/ Mainland	Release of sediment laden water during emergency pumping at Calliope River.
09/09/2013	KP419/ Curtis Island	Vegetation clearing for extra work space.

5 AMENDMENTS TO PLANS – CONDITION 62(d)

GLNG submitted revised plans as required to ensure all works were conducted in accordance with approved plans. During the AER Period this included revisions to the following plans:

- Aquatic Values Management Plan required by Condition 38.
- Significant Species Management Plan as required by Condition 8 and Condition 12.
- *Cycas megacarpa* Management Plan as required by Condition 24.
- Environmental Management Plan – Narrow Crossing as required by Condition 29.

At this time there are no outstanding amendments identified.

APPENDICES

APPENDIX A – Compliance with EPBC Approval.

APPENDICES

APPENDIX A – Compliance with EPBC Approval

Condition	Compliance Notes
<p>1. The pipeline route and ROW is depicted in the map at Attachment 1.</p>	<p>The Gas Transmission Pipeline (GTP) has been constructed generally in accordance with the pipeline route and ROW depicted in the map at Attachment 1 of the EPBC Approval as shown in the Environmental Management Plans approved by the Department.</p>
<p>2. The proponent must prepare a Environmental Management Plan to manage the impacts of construction, operation and decommissioning of the pipeline (other than in relation to the Narrows) on listed threatened species and ecological communities, listed migratory species and values of the World and National Heritage-listed Great Barrier Reef.</p> <p>3. The Environmental Management Plan must include:</p> <p>a. provisions for detailed pre-clearance surveys by a suitably qualified ecologist along the entire length of the ROW, in accordance with conditions 5 to 10;</p> <p>b. measures to minimise native and riparian vegetation clearance and to minimise the impact on listed species, their habitat and ecological communities in accordance with management plans required for MNES under this approval;</p> <p>c. measures to manage the impact of clearing on each listed species and ecological community in accordance with management plans required for MNES under this approval;</p> <p>d. measures to regenerate vegetation on the ROW where natural regeneration is not successful to a condition at least equivalent to the ROW condition prior to commencement;</p> <p>e. measures to minimise impacts on fauna during pipeline construction, including:</p> <p>i. measures to protect MNES in the areas of the ROW where trenching is being undertaken, including measures to exclude listed terrestrial fauna from gaining access to those areas of the ROW where trenching is currently being undertaken</p> <p>ii. mechanisms to allow fauna to escape from the pipeline trench;</p> <p>iii. daily morning surveys for trapped fauna;</p> <p>iv. mechanisms for a suitably qualified person to relocate fauna; and</p> <p>v. record keeping for all survey, removal and relocation activities.</p> <p>f. machinery wash down procedures and ongoing monitoring to minimise the spread and establishment of weeds in the ROW. Monitoring of weed infestations within disturbed areas must occur at least monthly during construction and then quarterly for a period of two years after completion of construction. Appropriate weed control measures must be implemented. After the two-year period, the frequency of monitoring must be reconsidered by the proponent, based on the success of control measures, the level of infestations and pipeline maintenance activities;</p> <p>g. measures to manage and control feral animals that may spread due to the establishment of the ROW;</p> <p>h. measures for the prevention of ignition sources to protect habitat values;</p> <p>i. measures for the management of acid sulfate soils;</p>	<p>Environmental Management Plans have been prepared for the Mainland, Marine Crossing and Curtis Island sections of the GTP meeting the requirements of condition 3 and were approved by the Department on 21 June, 7 December and 21 June 2012 respectively.</p> <p>The Environment Management Plan required by conditions 2 to 4 inclusive, is comprised in the following plans:</p> <ul style="list-style-type: none"> • Significant Species Management Plan; • Pest and Weed Management Plan; • Acid Sulfate Soils Management Plan; • Erosion and Sediment Control Plans; • Species Management Plan; • Mosquitoes and Midges Management Plan; • Waste Management Plan; • Landscape Rehabilitation Management Plan • Stormwater Management and Erosion and Sediment Control Plan; • Concept Dewatering, Hydrotest Water and Land Release Management Plan. <p>Collectively for the mainland, marine crossing and Curtis Island GTP components.</p> <p>The plans are available on the Santos GLNG Project website.</p>

Condition	Compliance Notes
<p>4. The Environmental Management Plan must be submitted for the approval of the Minister. Commencement must not occur without approval (except for activities critical to commencement and associated with mobilisation of plant, equipment, materials, machinery and personnel prior to start of pipeline construction which will have no adverse impact on MNES). The approved plan must be implemented.</p>	
<p>5. Before the clearance of native vegetation in the pipeline ROW, the proponent must:</p> <ol style="list-style-type: none"> undertake pre-clearance surveys for the presence of listed threatened species and migratory species, their habitat and listed ecological communities. alternatively, where recent surveys have already been undertaken and those surveys meet the Department's requirements for surveys for the relevant MNES, the proponent may elect to develop management plans based on those surveys in accordance with the requirements of Condition 8. 	<p>Preclearance ecological surveys in accordance with conditions 5 and 6 commenced in October 2011 and have now been completed for the entire GTP. Pre-clearance survey (Ecological) reports have been published online http://www.santosglng.com/resource-library/environmental-management-plans.aspx.</p>
<p>6. Pre-clearance surveys must:</p> <ol style="list-style-type: none"> for each listed species, be undertaken in accordance with the Department's survey guidelines in effect at the time of the survey. be undertaken by a suitably qualified ecologist approved by the Department in writing; document the survey methodology, results and significant findings in relation to MNES; apply best practice site assessment and ecological survey methods appropriate for each listed threatened species, migratory species, their habitat and listed ecological communities. 	
<p>7. Pre-clearance survey reports (which document the methods used and the results obtained) must be published by the proponent and provided to the Department on request.</p>	
<p>8. If a listed threatened species or migratory species or their habitat, or a listed ecological community is encountered during the surveys undertaken as required by condition 5 and is not specified in the Table 1 or 2 at condition 11 and 12, the proponent must submit a separate management plan for each species or ecological community to manage the unexpected impacts of clearing. In relation to each listed species or ecological community, each plan must address:</p> <ol style="list-style-type: none"> the relevant characteristics describing each ecological community a map of the location of species, species' habitat, or ecological community in proximity to the ROW; measures that will be employed to avoid impact on the species, species' habitat, or ecological community; a quantification of the unavoidable impact (in hectares and/or individual specimens); where impacts are unavoidable and a disturbance limit is not specified for the listed species or ecological community under condition 11, propose offsets to compensate for the impact on the population of the species' habitat, or the ecological community; current legal status (under the EPBC Act); known distribution. <p>For listed species, each plan must also include:</p> <ol style="list-style-type: none"> known species' populations and their relationships within the region; biology and reproduction; 	<p>Management plans for each listed species and ecological community (comprised in the Significant Species Management Plan (SSMP)) were developed by GLNG following the pre-clearance surveys in accordance with the requirements of condition 8 and the final plan was approved by the Minister on 7 June 2013.</p> <p>Quantification of the unavoidable impact to listed threatened species, migratory species, their habitat, or a listed ecological community is recorded in the Significant Species Management Plan (SSMP). GLNG is currently revising for submission the SSMP to reflect actual as compared to anticipated impacts arising from the GTP construction.</p> <p>In relation to condition 8 (e), on 27 September 2013, the Offset Plan submitted by GLNG was approved by the Department as satisfying condition 8 of the EPBC Act approval in relation to the direct offset obligations that arise from the Kangaroo Island wetlands, Narrows and Curtis Island elements of the GTP project.</p> <p>Once the revised SSMP is approved and final impacts quantified, GLNG will submit a revised Offset Plan to address the remaining unavoidable impacts</p>

Condition	Compliance Notes															
<p>c. preferred habitat and microhabitat including associations with geology, soils, landscape features and associations with other native fauna and/or flora or ecological communities;</p> <p>d. anticipated threats to MNES from pipeline construction, operation and decommissioning;</p> <p>e. management practices and methods to minimise impacts, such as:</p> <ul style="list-style-type: none"> i. site rehabilitation timeframes, standards and methods; ii. use of sequential clearing to direct fauna away from impact zones; iii. re-establishment of native vegetation in linear infrastructure corridors; iv. handling practices for flora specimens; v. translocation and/or propagation practices and monitoring for translocation/propagation success; vi. monitoring methods including for rehabilitation success and recovery; <p>f. reference to relevant conservation advice, recovery plans, or other policies, practices, standards or guidelines relevant to MNES published or approved from time to time by the Department.</p>	<p>to MNES resulting from the construction of the GTP which were not addressed by the Offset Plan approved on 27 September 2013.</p>															
<p>9. Each plan required under condition 8 must be submitted for the approval of the Minister. Commencement in the location covered by the management plan must not occur without approval. Each approved plan must be implemented.</p>																
<p>10. If, during construction a listed threatened species or migratory species or their habitat, or a listed ecological community is encountered and is not specified in the table at condition 11 or 12, the proponent must submit a separate management plan for each species or ecological community in accordance with condition 8 within 20 business days of encountering that MNES. Work must not continue at the construction site where the MNES is encountered until the relevant management plan has been approved.</p>	<p>Threatened species or migratory species encountered during construction of the GTP during this AER Period for those species not identified in Conditions 11 or 12 were as follows:</p> <table border="1" data-bbox="1274 868 2011 1066"> <thead> <tr> <th colspan="3">Table 2: EPBC Listed species</th> </tr> <tr> <th>Species</th> <th>EBPC Status</th> <th>Individual Numbers Encountered</th> </tr> </thead> <tbody> <tr> <td><i>Delma torquate (Collared delma)</i></td> <td>Vulnerable</td> <td>5 ind.</td> </tr> <tr> <td><i>Xerothamnella herbacea</i></td> <td>Endangered</td> <td>42 ind.</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Separate management plans for each of the species above meeting the requirements of condition 8 were prepared and approved by the Minister on 13 September and 19 December 2012 respectively. These plans were then incorporated into the Significant Species Management Plan Revision J and Revision N respectively.</p>	Table 2: EPBC Listed species			Species	EBPC Status	Individual Numbers Encountered	<i>Delma torquate (Collared delma)</i>	Vulnerable	5 ind.	<i>Xerothamnella herbacea</i>	Endangered	42 ind.			
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<p>11. The following maximum disturbance limits apply to any disturbances authorised for unavoidable impacts on listed threatened communities and potential habitat for listed threatened species or migratory species as a result of the construction, operation and decommissioning of the pipeline (and all associated activities).</p>	<p>Construction of the GTP continued during the AER Period. Disturbance for unavoidable impacts on listed threatened communities and potential habitat for listed threatened species or migratory species as a result of the construction was within the limits set out in condition 11.</p>															

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Species	EPBC Status	Disturbance limit (ha)																							
<i>Cycas megacarpa</i> (Large-fruited Zamia)	Endangered	27.8																							
<p>12. The proponent must prepare a management plan for each species in the table below. Each plan must be prepared in accordance with the requirements of condition 8.</p> <p>Table 2: Species management plans required before commencement</p> <table border="1"> <thead> <tr> <th colspan="2">Table 2: Species management plans required before commencement</th> </tr> <tr> <th>Listed species</th> <th>EPBC Act Status</th> </tr> </thead> <tbody> <tr> <td><i>Philothea sporadica</i></td> <td>Vulnerable</td> </tr> <tr> <td><i>Cadellia pentasyllis</i> (Ooline)</td> <td>Vulnerable</td> </tr> <tr> <td><i>Paradelma orientalis</i> (Brigalow Scaly-foot)</td> <td>Vulnerable</td> </tr> <tr> <td><i>Furina dunmalli</i> (Dunmall's Snake)</td> <td>Vulnerable</td> </tr> <tr> <td><i>Egernia rugosa</i> (Yakka Skink)</td> <td>Vulnerable</td> </tr> <tr> <td><i>Geophaps scripta scripta</i> (Squatter pigeon – southern)</td> <td>Vulnerable</td> </tr> <tr> <td><i>Nyctophilus timoriensis</i> (Eastern Long-eared Bat)</td> <td>Vulnerable</td> </tr> <tr> <td><i>Chalinolobus dwyeri</i> (Large-eared Pied Bat)</td> <td>Vulnerable</td> </tr> <tr> <td><i>Xeromys myoides</i> (Water Mouse)</td> <td>Vulnerable</td> </tr> </tbody> </table>			Table 2: Species management plans required before commencement		Listed species	EPBC Act Status	<i>Philothea sporadica</i>	Vulnerable	<i>Cadellia pentasyllis</i> (Ooline)	Vulnerable	<i>Paradelma orientalis</i> (Brigalow Scaly-foot)	Vulnerable	<i>Furina dunmalli</i> (Dunmall's Snake)	Vulnerable	<i>Egernia rugosa</i> (Yakka Skink)	Vulnerable	<i>Geophaps scripta scripta</i> (Squatter pigeon – southern)	Vulnerable	<i>Nyctophilus timoriensis</i> (Eastern Long-eared Bat)	Vulnerable	<i>Chalinolobus dwyeri</i> (Large-eared Pied Bat)	Vulnerable	<i>Xeromys myoides</i> (Water Mouse)	Vulnerable	<p>The SSMP includes management plans meeting the requirements of condition 8 for each individual species listed in Table 2.</p> <p>GLNG prepared the individual management plans comprised in the SSMP through a staged approach to align with the GTP construction schedule. These have been approved by the Department and no further individual management plans are expected to be required. GLNG is however currently revising the SSMP to reflect actual as compared to anticipated impacts arising from the GTP construction.</p> <p>On 27 September 2013, the Offset Plan submitted by GLNG was approved by the Department as satisfying condition 8 of the EPBC Act approval in relation to the direct offset obligations that arise from the Kangaroo Island wetlands, Narrows and Curtis Island elements of the GTP project.</p> <p>Once the revised SSMP is approved and final impacts quantified, GLNG will submit a revised Offset Plan to address the remaining unavoidable impacts to MNES resulting from the construction of the GTP which were not addressed by the Offset Plan approved on 27 September 2013.</p>
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<p>13. Each management plan must be submitted for the approval of the Minister. Commencement must not occur without approval. Commencement in the location covered by the management plan must not occur without approval. Each approved plan must be implemented.</p>			<p>Each of the individual management plans comprising the SSMP was submitted and approved prior to works commencing in the area relevant to the species/habitat.</p>																						
<p>14. Disturbance of vegetation related to the construction and maintenance of the pipeline must be confined to the ROW. Any proposed siting of construction camps, vehicle access tracks and pipe lay-down areas outside the ROW during construction must be undertaken so as to minimise potential adverse impacts on MNES and must comply with conditions 5 to 13.</p>			<p>Clearing outside the RoW has and will continue to be undertaken in a way that minimises the potential impacts caused by construction activities. All clearing will be conducted in compliance with the site specific Management plans and set conditions.</p>																						

Condition	Compliance Notes
<p>15. Within 12 months of the commencement of pipeline development the proponent must prepare an Offset Plan to provide an offset area for the approved disturbance limits relating to Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions within the project area. The offset area to be secured must be an area of private land which includes at least 19.2 ha of Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions.</p>	<p>GLNG OPL submitted the GTP Environmental Offset Plan (EOP) for the GTP Project on 22 April 2011.</p> <p>Note: The commencement date for the controlled action the subject of the EPBC Act approval (the GTP) was the 2 August 2012.</p>
<p>16. The Offset Plan must include details of the offset area including: the timing and arrangements for property acquisition, maps and site description, environmental values relevant to MNES, connectivity with other habitats and biodiversity corridors, a rehabilitation program, and mechanisms for long-term protection, conservation and management.</p>	<p>The EOP included properties that would be suitable to meet the offset requirement for SEVT Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions. In addition, the OEP identified off properties that would address the offset requirements for listed flora and fauna species, World Heritage and National Heritage values.</p> <p>The EOP will be updated to reflect the offset requirements for the GTP Project once the final SSMP has been approved. This EOP will be resubmitted to the Department for approval (refer to Compliance Notes for condition 8).</p>
<p>17. The Offset Plan must be submitted for the approval of the Minister within 12 months of the commencement of gas field development. The approved Offset Plan must be implemented within 30 business days of approval.</p>	
<p>18. If the approved Offset Plan cannot be implemented because of failure of arrangements to secure the necessary area of private land then the proponent must submit for the Minister's approval an alternative Offset Plan. The alternative Offset Plan must provide at least an equivalent environmental outcome to those specified under condition 15. The approved alternative Offset Plan must be implemented.</p>	<p>Not applicable</p>
<p>19. If the proponent proposes any action within a proposed offset area, other than actions related to managing that area as an offset property, approval must be obtained, in writing from the Department. In seeking Departmental approval the proponent must provide a detailed assessment of the proposed action including a map identifying where the action is proposed to take place and an assessment of all associated adverse impacts on MNES. If the Department agrees to the action within the proposed offset site, the area identified for the action must be excised from the proposed offset and alternative offsets secured of equal or greater environmental value in relation to the impacted MNES.</p>	<p>Not applicable.</p>
<p>20. The proponent must secure the offset within 2 years of commencement.</p>	<p>The commencement date for the controlled action the subject of the EPBC Approval (the GTP) was 2 August 2012.</p>
<p>21. Within 12 months of securing the offset area required under the approved Offset Plan, the proponent must develop an Offset Area Management Plan which must specify measures to improve the environmental values of the offset area in relation to MNES, including;</p> <ul style="list-style-type: none"> a. the documentation and mapping of current environmental values relevant to MNES of the area; b. measures to address threats to MNES including but not limited to grazing pressure and 	<p>Not applicable. The Offset Area Management Plan (OAMP) will be developed once the EOP has been approved by the Department.</p>

Condition	Compliance Notes
<p>damage by livestock and adverse impacts from feral animals and weeds;</p> <p>c. measures to provide fire management regimes appropriate for the MNES;</p> <p>d. measures to manage the offset area to improve the condition of the SEVT ecological community within the offset area and to increase the areal extent of SEVT ecological community within the offset area as objectives of the program.</p> <p>e. monitoring, including the undertaking of ecological surveys to assess the success of the management measures against identified milestones and objectives;</p> <p>f. performance measures and reporting requirements against identified objectives, including trigger levels for corrective actions and the actions to be taken to ensure performance measures and objectives are met.</p>	
<p>22. Within 12 months of securing the offset area the Offset Area Management Plan must be submitted for the approval of the Minister. The approved Offset Area Management Plan must be implemented.</p>	
<p>23. To offset the unavoidable impacts to <i>Cycas megacarpa</i> from all activities associated with this approval including implementing the baseline route through this Callide and Calliope Ranges assessed in the Environment Impact Statement, the proponent must:</p> <p>a. within 36 months of the date of this approval, secure an area of at least 166.8ha as an offset for receiving no less than 3990 translocated and propagated individuals;</p> <p>b. identify alternative recruitment methods if it is considered unlikely that translocation and propagation will be successful;</p> <p>c. notify the Department in writing of the acquisition or transfer of ownership of the area identified in Condition 23(a) within one month of securing the land;</p> <p>d. if the proponent proposes any action within a proposed offset area, other than actions related to managing that area as an offset property, approval must be obtained, in writing from the Department. In seeking Departmental approval the proponent must provide a detailed assessment of the proposed action including a map identifying where the action is proposed to take place and an assessment of all associated adverse impacts on MNES. If the Department agrees to the action within the proposed offset site, the area identified for the action must be excised from the proposed offset and alternative offsets secured of equal or greater environmental value in relation to the impacted MNES;</p> <p>e. demonstrate that the measures for securing and managing the offset will ensure that the offset is protected in perpetuity.</p>	<p>GLNG submitted the GTP Environmental Offset Plan (EOP) in relation to condition 23 on 22 April 2011. The Plan identified a number of properties that would be suitable as potential recipient sites for the translocated and propagated Cycads.</p> <p>The GLNG <i>Cycas megacarpa</i> Management Plan (CMP) was prepared to address condition 23, 24 and 25 of EPBC Approval 2008/4096. Document reference number: 3380-GLNG-4-1.3-0013 (Rev 5). GLNG identified in the CMP a preferred offset property and demonstrated that it was suitable as a translocation and offset site.</p> <p>The CMP was approved by the Department on 4 March 2013. Document reference number: SEWPaC letter_Ref:2012/14056. Subsequent amendments have been made to the approved CMP. The amended CMPs have been submitted for approval to the Department. The Department approved the most recent version of the CMP (Rev 8) on 30 August 2013. Document reference: SEWPaC letter_Ref:2013/02492.</p> <p>GLNG has requested a further extension of time to secure the preferred Cycad Offset Site. Document reference number: 20131016_GLNG Letter to DOTE. The Department is considering the request.</p>
<p>24. The proponent must prepare a <i>Cycas megacarpa</i> Management Plan in consultation with an expert approved by the Department in writing.</p>	<p>In accordance with condition 24 to 26, GLNG submitted and had approved a <i>Cycas megacarpa</i> Management Plan by the Department on 04 March 2013.</p>
<p>25. The <i>Cycas megacarpa</i> Management Plan must include:</p> <p>a. confirmation of the pipeline route across the Callide Range</p> <p>b. measures to ensure all <i>Cycas megacarpa</i> within the ROW are avoided using, for example suitable trenchless technique(s) as necessary or, if avoidance is not possible, individual plants</p>	<p>The Plan has been updated on occasions with the final revision (Revision 8) being approved by the Department on 30 August 2013.</p>

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<p>must be removed and kept offsite and replanted in the same location, or alternatively translocated. Where it can be demonstrated that removal and translocation of individuals is unlikely to succeed, translocation may be substituted by establishing propagated individuals;</p> <p>c. measures to propagate and plant <i>Cycas megacarpa</i> individuals removed or impacted by construction activities to maintain a population of no less than 3990 (2610 if the CRAR is pursued) individuals within the offset site required by Condition 23(a);</p> <p>d. a detailed methodology for translocation, propagation, and planting, including a map of the location of the offset site;</p> <p>e. details of funding required to secure, maintain and enhance the values of the offset site in perpetuity;</p> <p>f. details of a suitably qualified person to undertake translocation, propagation and planting;</p> <p>g. details of the erosion and sediment control measures to be implemented in the ROW in the Callide and Calliope Ranges;</p> <p>h. measures to rehabilitate the ROW in the Callide and Calliope Ranges;</p> <p>i. measures for the control and management of weeds, fire, feral animals, access and grazing in translocation sites;</p> <p>j. measures for the management, maintenance and protection of the population of <i>Cycas megacarpa</i> individuals in the offset site for a period of five years following final planting;</p> <p>k. details of monitoring practices to assess the success of proposed management regimes of the offset;</p> <p>l. performance measures, reporting requirements, trigger levels for corrective actions and identification of those actions to be taken to ensure performance measures are met; and</p> <p>m. a reconciliation statement of impacts against the agreed limit of disturbance, as defined above in condition 11 must be updated by the proponent every 12 months from commencement until construction is complete.</p>	
<p>26. The <i>Cycas megacarpa</i> Management Plan must be submitted for the approval of the Minister. Commencement in the location covered by the management plan must not occur without approval. The approved plan must be implemented.</p>	
<p>27. To avoid doubt, a single offset management plan can be submitted to meet all offset management plan requirements.</p>	<p>Not applicable; condition is an aid to interpretation.</p>
<p>28. Condition 28 was revoked and deleted by decision of the Department on 31 October 2013.</p>	
<p>29. The proponent must prepare an Environmental Management Plan for the crossing of the Narrows. This must include:</p> <p>a. if the crossing is undertaken concurrently with the construction of one or more additional gas transmission pipelines (a 'bundled crossing'):</p> <p>i. the roles and responsibilities of each party involved in the bundled crossing;</p> <p>ii. details of the final pipeline route, engineering design and construction methodology, including details of the total number of gas transmission pipes including any pipelines for water supply and/or sewerage;</p>	<p>The Environmental Management Plan for the crossing of the Narrows has been approved by the Department.</p> <p>Construction of The Narrows crossing will be undertaken by tunnel boring machine (TBM). Management strategies for the Narrows crossing has been incorporated into the overall project Environmental Management Plans. GLNG did not participate in the "bundled crossing".</p>

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<p>iii. potential impacts from the construction of the pipeline on listed threatened species, ecological communities, migratory species and World and National Heritage-listed values of the Great Barrier Reef;</p> <p>iv. mitigation measures to reduce impacts on listed threatened species, ecological communities, migratory species and World and National Heritage-listed values of the Great Barrier Reef;</p> <p>v. proposed offset measures to compensate for unavoidable impacts on listed threatened species and ecological communities, listed migratory species and values of the World and National Heritage-listed Great Barrier Reef;</p> <p>vi. measures for the management of acid sulfate soils (both potential and actual);</p> <p>vii. measures for ongoing maintenance and decommissioning of the pipelines, or</p> <p>If the proponent does not proceed in a bundled crossing:</p> <p>b. a construction method which, in the opinion of the Minister, will result in minimal surface disturbance to the Kangaroo Island Wetlands and minimal disturbance to the area of the estuary of the Narrows (preferably achieved by horizontal directional drilling or tunnelling);</p> <p>i. details of the final pipeline route, design and construction methodology, including details of inclusion of pipes for water supply and sewerage;</p> <p>ii. potential impacts from the construction of the pipeline on listed threatened species, ecological communities, migratory species and World and National Heritage-listed values of the Great Barrier Reef;</p> <p>iii. mitigation measures to reduce impacts to listed threatened species, ecological communities, migratory species and World and National Heritage-listed values of the Great Barrier Reef;</p> <p>iv. proposed offsets to compensate for the unavoidable impacts of the action on listed threatened species and ecological communities, listed migratory species and values of the World and National Heritage-listed Great Barrier Reef;</p> <p>v. measures for the management of acid sulfate soils;</p> <p>vi. measures for ongoing maintenance and decommissioning of the pipeline.</p>	<p>A Receiving Environment Monitoring Program has been developed by Cardno to monitor the actual and potential impacts of the construction activities on the receiving environment within the Narrows region.</p> <p>The EMP for the Marine Crossing includes an Acid Sulfate Soils Management Plan (ASSMP). This ASSMP has been approved by DEHP. This plan outlines the measures to be taken in order to manage acid sulfate soils.</p>
<p>30. The Environmental Management Plan must be submitted for the approval of the Minister. The activity which is the subject of the Environmental Management Plan must not start without approval. The approved plan must be implemented.</p>	
<p>31. If the pipeline construction involves dredging to be undertaken by the proponent under the approval to which these conditions are attached, the proponent must prepare a Dredge Management Plan.</p>	<p>Not applicable. The pipeline construction methodology does not include dredging.</p>
<p>32. The Dredge Management Plan required under these conditions must include:</p> <p>a. details of dredging methods, planned commencement, duration and frequency of dredging;</p> <p>b. identification of areas of potentially impacted seagrass habitat and their environmental tolerances;</p> <p>c. site specific water quality objectives for the designated habitats as a guideline for habitat</p>	

Condition	Compliance Notes
<p>protection and that are in accordance with the National Water Quality Management Strategy including the Australian and New Zealand Guidelines for Fresh and Marine Water Quality, the Australian Guidelines for Water Quality Monitoring and Reporting, the Great Barrier Reef Water Quality Guidelines and the Queensland Water Quality Guidelines;</p> <p>d. measures to refine the plume modelling data presented in the proponent's Environmental Impact Statement;</p> <p>e. mitigation measures and controls for the dredging and spoil disposal activities;</p> <p>f. triggers for initiating adaptive management and potential remediation measures;</p> <p>g. monitoring of:</p> <p>i. potential impacts of dredging on seagrass including but not limited to turbidity and light attenuation;</p> <p>ii. the triggers established under condition 32(f); and</p> <p>iii. the long term impacts of the action;</p> <p>h. options, linked to the triggers established under condition 32(f), for adaptively managing the action – including options for varying the timing and location of dredging and spoil disposal activities;</p> <p>i. details for monitoring of dredging activities, including timing and variables measured such as turbidity and light attenuation in a format as directed by the Department to allow validation of other modelling of dredging impacts relating to the Port of Gladstone;</p> <p>j. measures to minimise the impact on listed migratory birds from noise associated with construction activities;</p> <p>k. measures to prevent and respond to the introduction of marine pest species;</p> <p>l. measures to protect dugongs and listed turtles including the use of turtle excluder devices;</p> <p>m. details of dredge spoil placement;</p> <p>n. provisions to sample and analyse dredge spoil composition.</p>	
<p>33. The Dredge Management Plan must be submitted for the approval of the Minister. The activity the subject of the Dredge Management Plan must not occur without approval. The approved plan must be implemented.</p>	
<p>34. East of the Callide Range, the proponent must locate the pipeline within the Callide Infrastructure Corridor State Development Area as indicated in the map at Attachment 1.</p>	<p>The Pipeline has been constructed within the Callide Infrastructure Corridor State Development Area (CICSDA).</p>
<p>35. Where reasonably possible horizontal directional drilling must be used for major waterway crossings, including:</p> <p>a. those within the Fitzroy and Calliope River catchments and any water crossing within the known distribution of the Fitzroy River Turtle (<i>Rheodytes leukops</i>) and Murray Cod (<i>Maccullochella peelii peelii</i>). Pipeline construction across waterways must not take place during the nesting and breeding season of the Fitzroy River Turtle;</p> <p>b. Humpie and Targinie Creeks before marshlands near Kangaroo Island and The Narrows</p>	<p>The Aquatic Values Management Plan (AVMP) details the construction methodology to be used for each individual watercourse crossing in order to minimise the impact on MNES. Seasons and the ecology of species are taken into consideration within the AVMP and SSMP.</p> <p>Any watercourses within the known distribution areas were determined to be adequately mitigated against potential impacts to MNES without the use</p>
<p>36. Trenchless techniques are not required in minor creek beds within the known distribution of the Fitzroy River Turtle (<i>Rheodytes leukops</i>) and Murray Cod (<i>Maccullochella peelii peelii</i>)</p>	

Condition	Compliance Notes
<p>where there is no water at the crossing site and the distance to the nearest water is sufficient to buffer any potential impacts resulting from the crossing technique.</p>	<p>horizontal directional drilling.</p>
<p>37. The proponent must prepare an Aquatic Values Management Plan. This plan must include:</p> <ul style="list-style-type: none"> a. a detailed assessment of aquatic values, including animal breeding locations for listed threatened and migratory species within the ROW; b. measures to minimise impacts on listed riparian, aquatic and water dependent flora and fauna; c. measures to minimise erosion and sediment impacts to waterways; d. measures to maintain water quality and water flow requirements, including treatment and disposal methods for hydrostatic test water; e. site-specific mitigation measures for any potential impacts from construction and operation of the pipeline on listed threatened species, including but not limited to the Fitzroy River Turtle. 	<p>The AVMP was submitted to the Department for approval prior to construction within each applicable watercourse.</p> <p>No works commenced in watercourses until the relevant AVMP submitted by GLNG was approved by the Department. The final AVMP was approved by the Department 03/10/2013.</p>
<p>38. The Aquatic Values Management Plan must be approved in writing by the Minister. Activities the subject of the plan must not start without approval. The Plan must be implemented.</p>	
<p>39. Within 20 business days of commencement, the proponent must advise the Department in writing of the actual date of commencement.</p>	<p>The Department was informed of the commencement date of the GTP construction on 23 August 2012.</p>
<p>40. If, at any time after five years from the date of this approval, the Minister notifies the proponent in writing that the Minister is not satisfied that there has been commencement of the action, the action must not commence without the written agreement of the Minister.</p>	<p>Not applicable.</p>
<p>41. If the proponent wants to act other than in accordance with a plan approved by the Minister under these conditions, the proponent must submit a revised plan for the Minister's approval.</p>	<p>GLNG submitted revised plans as required to ensure all works were conducted in accordance with the approved plan.</p>
<p>42. If the Minister approves the revised plan, then that plan must be implemented instead of the plan originally approved.</p>	
<p>43. Until the Minister has approved the revised plan, the proponent must continue to implement the original plan.</p>	
<p>44. If the Minister believes that it is necessary or desirable for the better protection of a relevant controlling provision for the action, the Minister may request the proponent to make, within a period specified by the Minister, revisions to a plan approved under these conditions.</p>	<p>No requests have been made by the Department during the AER Period.</p>
<p>45. If the Minister makes a request for revision to a plan, the proponent must:</p> <ul style="list-style-type: none"> a. comply with that request; and b. submit the revised plan to the Minister for approval within the period specified in the request. 	
<p>46. The proponent must implement the revised plan on approval of the Minister.</p>	
<p>47. Until the Minister has approved the revised plan, the proponent must continue to implement the original plan.</p>	
<p>48. For any plan required to be approved by the Minister under these conditions, the proponent must ensure the Minister is provided at least 20 business days for review and consideration of the plan, unless otherwise agreed in writing between the proponent and the Minister.</p>	<p>Not applicable.</p>

Condition	Compliance Notes
49. The proponent must comply with all environmental authorisations issued by the State, including conditions of an environmental authority issued under the EP Act.	Refer to Section 4 of this AER which includes potential non-compliances with State environmental authorisations.
50. If a condition of a State approval requires the proponent to provide a plan then the proponent must also provide the plan to the Department or Minister on request, within the period specified in the request.	State required plans are available to the Department or Minister.
51. If these conditions require the proponent to provide something by a specified time, a longer period may be specified in writing by the Minister.	Not relevant to AER.
52. On the request of and within a period specified by the Department, the proponent must ensure that: a. an independent audit of compliance with these conditions is conducted; and b. an audit report, which addresses the audit criteria to the satisfaction of the Department, is published on the Internet and submitted to the Department.	No independent audit of compliance with these conditions was requested by the Department during the AER Period.
53. Before the audit begins, the following must be approved by the Department: a. the independent auditor; and b. the audit criteria.	
54. The audit report must include: a. the components of the project being audited; b. the conditions that were activated during the period covered by the audit; c. a compliance/non-compliance table; d. a description of the evidence to support audit findings of compliance or non-compliance; e. recommendations on any non-compliance or other matter to improve compliance; f. a response by the proponent to the recommendations in the report (or, if the proponent does not respond within 20 business days of a request to do so by the auditor, a statement by the auditor to that effect); g. certification by the independent auditor of the findings of the audit report.	
55. The financial cost of the audit will be borne by the proponent.	
56. The proponent must: a. implement any recommendations in the audit report, as directed in writing by the Department after consultation with the proponent; b. investigate any non-compliance identified in the audit report; and c. if non-compliance is identified in the audit report - take action as soon as practicable to ensure compliance with these conditions.	
57. If the audit report identifies any non-compliance with the conditions, within 20 business days after the audit report is submitted to the Department the proponent must provide written advice to the Minister setting out the: a. actions taken by the proponent to ensure compliance with these conditions; and b. actions taken to prevent a recurrence of any non-compliance, or implement any other recommendation to improve compliance, identified in the audit report.	

Condition	Compliance Notes
<p>58. The proponent must, when first becoming aware of a non-compliance with these conditions, or a plan required to be approved by the Minister under these conditions:</p> <p>a. report the non-compliance and remedial action to the Department within five business days;</p> <p>b. bring the matter into compliance within a reasonable time frame specified in writing by the Department.</p>	<p>All potential non-compliances have been notified to the Department. Refer to Section 4 of this AER.</p>
<p>59. The proponent must:</p> <p>a. maintain accurate records substantiating all activities associated with or relevant to these conditions of approval, including measures taken to implement a plan approved under these conditions; and</p> <p>b. make those records available on request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with these conditions.</p>	<p>All required records are maintained in a central compliance database and are available to the Department on request.</p>
<p>60. The proponent must:</p> <p>a. provide the Minister with a financial assurance in the amount and form required from time to time by the Minister for activities to which these conditions apply; and</p> <p>b. review and maintain the amount of financial assurance based on proponent reporting on compliance with these conditions, and any auditing of the activities.</p>	<p>Not applicable.</p>
<p>61. The financial assurance is to remain in force until the Minister is satisfied that no claim is likely to be made on the assurance.</p>	
<p>62. The proponent must produce an Annual Environmental Return which:</p> <p>a. addresses compliance with these conditions;</p> <p>b. records any unavoidable adverse impacts on MNES, mitigation measures applied to avoid adverse impacts on MNES; and any rehabilitation work undertaken in connection with any unavoidable adverse impact on MNES;</p> <p>c. identifies all non-compliances with these conditions; and</p> <p>d. identifies any amendments needed to plans to achieve compliance with these conditions.</p>	<p>This document: <i>Annual Environmental Return 2013 EPBC No 2008/4096 Gas Transmission Pipeline 3301-GLNG-4-1.3-0189.</i></p>
<p>63. The proponent must publish the Annual Environmental Return on its website within 20 calendar days of each anniversary date of this approval. In complying with this publication requirement, the proponent must ensure that it has obtained relevant rights in relation to confidentiality and intellectual property rights of third parties</p>	<p>The <i>Annual Environmental Return 2013</i> will be published on the GLNG website by 19 November 2013.</p>
<p>64. If requested by the Department, the proponent must provide all species and ecological survey data and related survey information from ecological surveys undertaken for MNES. The data must be collected and recorded to conform to data standards notified from time to time by the Department.</p>	<p>Not applicable.</p>
<p>65. All plans approved by the Minister under these conditions must be published on the proponent's website within 30 business days of approval by the Minister.</p>	<p>All plans which have been approved by the Minister during the AER Period have been published in accordance with this condition and are available at http://www.santosglng.com/resource-library/environmental-management-plans.aspx.</p>

Condition	Compliance Notes
66. The Department may request the proponent to publish on the internet a plan in a specified location or format and with specified accompanying text. The proponent must comply with any such request.	Not applicable.

