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Independent third party audit

Environment Protection and Biodiversity Conservation Approval 2009/4974

Origin Energy Resources Limited >> 19 August 2016 >> Revision 1

Environment Protection and Biodiversity Conservation Approval 2009/4974

Independent Third Party Audit

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Prepared by Kate Every

Reviewed by David Curwen

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			Name/Position	Signature
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Executive Summary

AECOM Australia Pty Ltd (AECOM) was commissioned by Origin Energy Resources Limited (Origin) to undertake an audit of conditions 50 to 61, 74 to 76, 78 and 79 of the Australia Pacific LNG approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) for the development of the Walloons gas fields (EPBC 2009/4974). The Department of the Environment requested the audit in accordance with condition 102 of the EPBC approval, to be performed in compliance with conditions 103 to 107.

In accordance with condition 103, the Department of the Environment approved AECOM as an independent auditor, with the audit criteria approved on 3 May 2016.

The audit addressed conditions associated with coal seam gas water monitoring and management at the Walloons gas field through a compliance assessment of relevant documentation. The audit was undertaken between 4 April and 1 July 2016.

Overall, the project was assessed as highly compliant against the scoped conditions of the audit. Ten non-compliances were identified during the audit. Six of these non-compliances related to individual conditions, with the remaining four non-compliances due to the linked nature of the approval conditions which result in additional non-compliances where only one exists. A discussion of these non-compliances is provided in Section 4.0. With the exception of the ten non-compliances identified, the activities are being undertaken in accordance with the approval conditions. No evidence of impacts to Matters of National Environmental Significance (other than as approved by the Department), were identified during the audit.

1.0 Introduction

1.1 Background

The Australia Pacific LNG Project received Commonwealth environmental approval for the development, construction, operation and decommissioning of the Walloons gas fields within the Surat Basin in south-central Queensland on 21 February 2011 (EPBC 2009/4974). The location of the Walloons gas fields is shown in Figure 1.

On 4 December 2015, the Department of the Environment (the Department) directed Origin Energy Resources Limited (Origin), on behalf of Australia Pacific LNG, to undertake an audit of specific conditions of the approval. The Department stated the following objective for this audit:

An audit will verify the effectiveness of these conditions in protecting MNES, and whether the action is being undertaken in accordance with the approval conditions.

AECOM Australia Pty Ltd (AECOM) was commissioned by Origin to undertake this audit and was subsequently approved by the Department as an independent auditor in accordance with condition 103 of the approval (Appendix A). The AECOM audit team qualifications and experience are provided in Section 3.1. The audit criteria was approved by the Department on 3 May 2016, in accordance with condition 103 of the approval (Appendix B).

1.2 Audit scope

The Department requested that the audit scope include conditions 50 to 61, 74 to 76, 78 and 79 of EPBC 2009/4974. These conditions primarily address coal seam gas (CSG) water monitoring and management, with the Department stating that:

The rationale for limiting the scope of the audit to these conditions is to measure the effectiveness of the methods employed to minimise the impact of CSG project activities on water resources.[1]

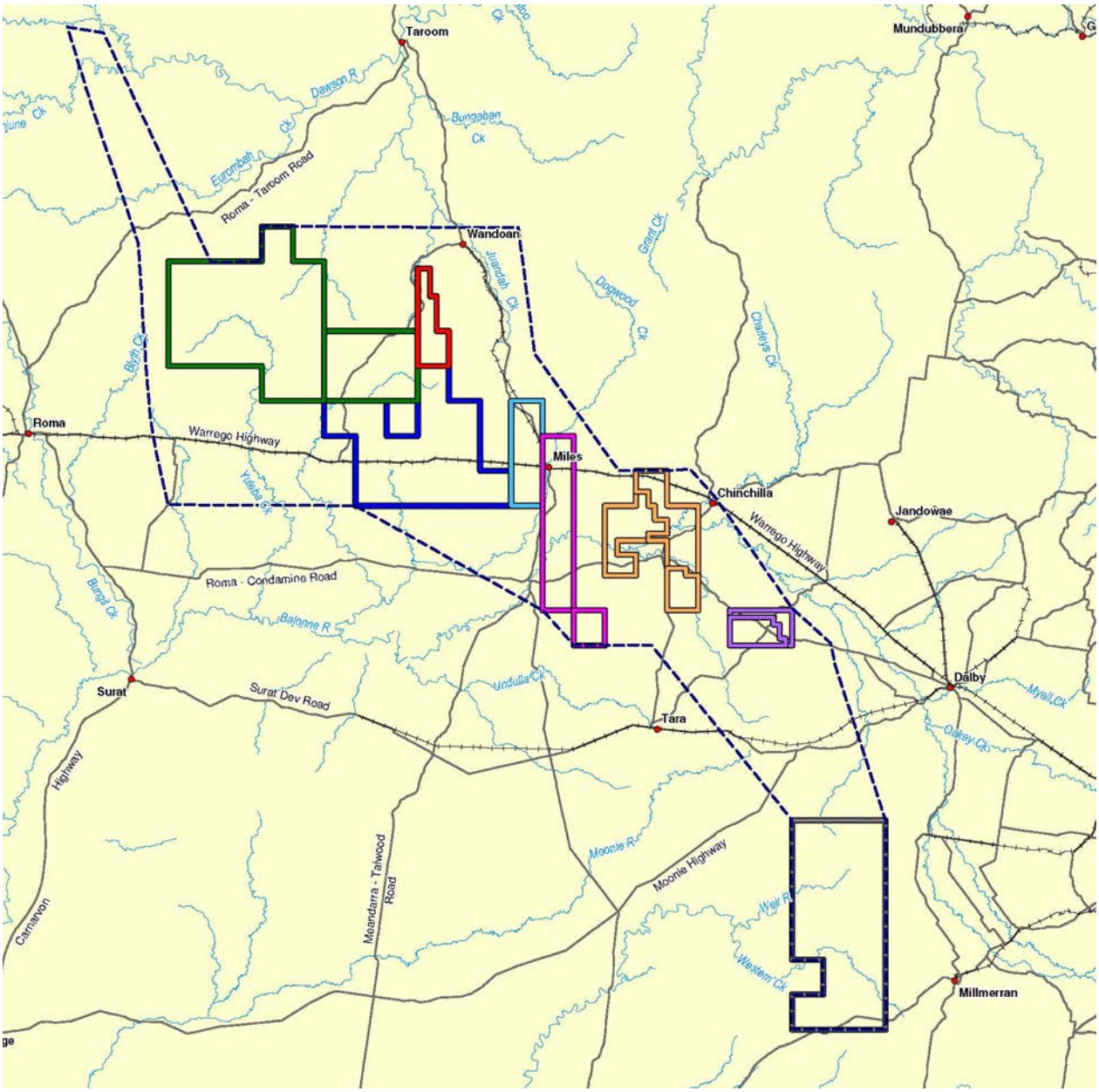
The scoped conditions provide for:

- Stage 1 CSG water monitoring and management requirements, including the development, submission, approval and implementation of the Stage 1 CSG Water Monitoring and Management Plan (WMMP) (conditions 50, 51,56, 58, 61)
- Stage 2 CSG water monitoring and management requirements, including the development, submission, approval and implementation of the Stage 2 CSG WMMP (conditions 52, 53, 54, 55, 56, 58, 59, 60, 61)
- The requirement that only sufficient CSG water has been utilised to undertake approved activities (condition 57)
- The notification of any threshold breaches and response actions in relation to a risk of reduction in groundwater pressure or water quality (condition 74)
- The notification of any threshold breaches and response actions in relation to a surface or groundwater threshold value being exceeded (condition 75)
- Response actions taken in the event of threshold breaches including further monitoring and investigation, the ceasing of water/gas extraction and/or water discharge or use in the affected area, or such other measures as are appropriate, until investigations can be completed to determine the cause and remedial action (condition 76)
- The requirement to notify the Department in writing when developing or reviewing construction, operational, groundwater, CSG water, brine management, salinity management, environmental management, or other plans where the scope of the plans relates to potential significant direct, indirect or cumulative adverse impacts on Matters of National Environmental Significance (MNES), or involves management of MNES (condition 78)
- The requirement to submit construction, operational, groundwater, CSG water, brine management, salinity management, environmental management, or other plans to the Minister for approval where the scope of the

[1] Letter from S. Gaddes (Department of the Environment) to R. Ully (Origin Energy) 4 December 2015, Department Reference 14/008248

plans relates to potential significant adverse impact on MNES, or involves management of MNES, and for the approved plans to be implemented (Condition 79).

Figure 1 Australia Pacific LNG Walloons gas field development areas



2.0 Context

2.1 Project overview

Australia Pacific LNG Pty Limited is an incorporated joint venture between Origin (37.5%), ConocoPhillips (37.5%) and Sinopec (25%). The Australia Pacific LNG project includes the development of Australia Pacific LNG's coal seam gas resources in the Surat and Bowen Basins, a 530 km transmission pipeline, and a multi-train liquid natural gas (LNG) facility on Curtis Island, near Gladstone.

2.2 Walloons gas field development

The Australia Pacific LNG project includes the Walloons gas fields in the Surat Basin. The Walloons gas fields EPBC approval (2009/4974) comprises the following development areas:

- Talinga (ATP692)
- Condabri Central (ATP702)
- Condabri South (ATP702)
- Condabri North (ATP702)
- Reedy Creek (ATP606)
- Combabula (ATP606)
- Orana (ATP692)
- Dalwogan (ATP692)
- Pine Hills (ATP606)
- Ramyard (ATP972)
- Kainama (ATP692)
- Gilbert Gully (ATP663)
- Woleebee (ATP692)
- Carinya (ATP973, ATP847).

The Australia Pacific LNG Upstream Phase 1 Stage 2 CSG WMMP applies to the Talinga, Orana, Condabri, Reedy Creek and Combabula gas fields. It is understood that no production has occurred at the remaining development areas at the time of the audit and these have been excluded from the scope of the audit.

2.3 CSG water monitoring and management plan

In accordance with condition 50 of the approval, Australia Pacific LNG developed a Stage 1 CSG WMMP. This plan was approved by the Minister on 21 December 2012.

In accordance with condition 52 of the approval, Australia Pacific LNG subsequently developed a Stage 2 CSG WMMP to augment and update the content of the Stage 1 CSG WMMP. This plan was approved by the Minister on 27 March 2014.

Specific inclusions required for the Stage 1 and Stage 2 CSG WMMPs are listed under conditions 51 and 53 of the approval, respectively, and address:

- Groundwater monitoring and management
- Hydraulic fracturing
- Surface water monitoring and management
- Response actions and reporting.

2.3.1 Groundwater monitoring and management

Origin has monitored groundwater pressure, level and quality characteristics through a series of bores across the Walloons gas field development areas since 2012. The monitoring program is documented in the Groundwater Monitoring Plan, which forms a component of the Stage 1 and Stage 2 CSG WMMPs. The monitoring results are documented annually in the Groundwater Assessment Report (2012-2013, 2013-2014, and 2014-2015).

2.3.2 Hydraulic fracturing

Hydraulic fracturing occurred at the Walloons Development Area in 2012 and 2015, with further fracturing activities planned for 2016. No fracturing activity was undertaken in 2013 or 2014. The hydraulic fracturing program is documented in the Hydraulic Fracture Stimulation Report which forms a component of the Stage 2 CSG WMMP.

2.3.3 Surface water monitoring and management

The CSG water produced through the extraction of gas at the Walloons Development Area is treated at the Talinga, Condabri and Reedy Creek Water Treatment Facilities (WTFs). Australia Pacific LNG manages the treated water through either river release (which has not occurred since December 2013) or through the following beneficial uses:

- Aquifer reinjection
- Fairymeadow Road Irrigation Pipeline
- Transfer to QGC's Chinchilla Beneficial Use Scheme
- Project activities.

The Surface Water Monitoring and Management Plan forms a component of the Stage 1 and Stage 2 WMMPs. An updated revision of this document (Revision 7, 12 April 2016) was sighted during the audit, however, as it had not been submitted to the Department at the time of the audit, it was not considered within the scope of the audit.

3.0 Method

The audit was conducted in accordance with EPBC 2009/4974 approval conditions 102 to 107, using audit criteria approved by the Department. The audit was carried out in accordance with AS/NZS ISO 19011:2011 Guidelines for quality and/or environmental management systems auditing and the audit principles contained within the Department guidelines.

3.1 Audit team

AECOM established a highly experienced and qualified independent audit team to undertake the work. The auditors were led by Rob Storrs, an Exemplar certified auditor (certificate provided in Appendix D). The team structure is shown in Figure 2 and details of each audit team member are summarised in Table 1 (CVs are provided in Appendix D). The AECOM audit team has been recognised by the Department to meet the criteria of an independent auditor in accordance with condition 103 of the approval (Appendix A).

Figure 2 Audit team structure

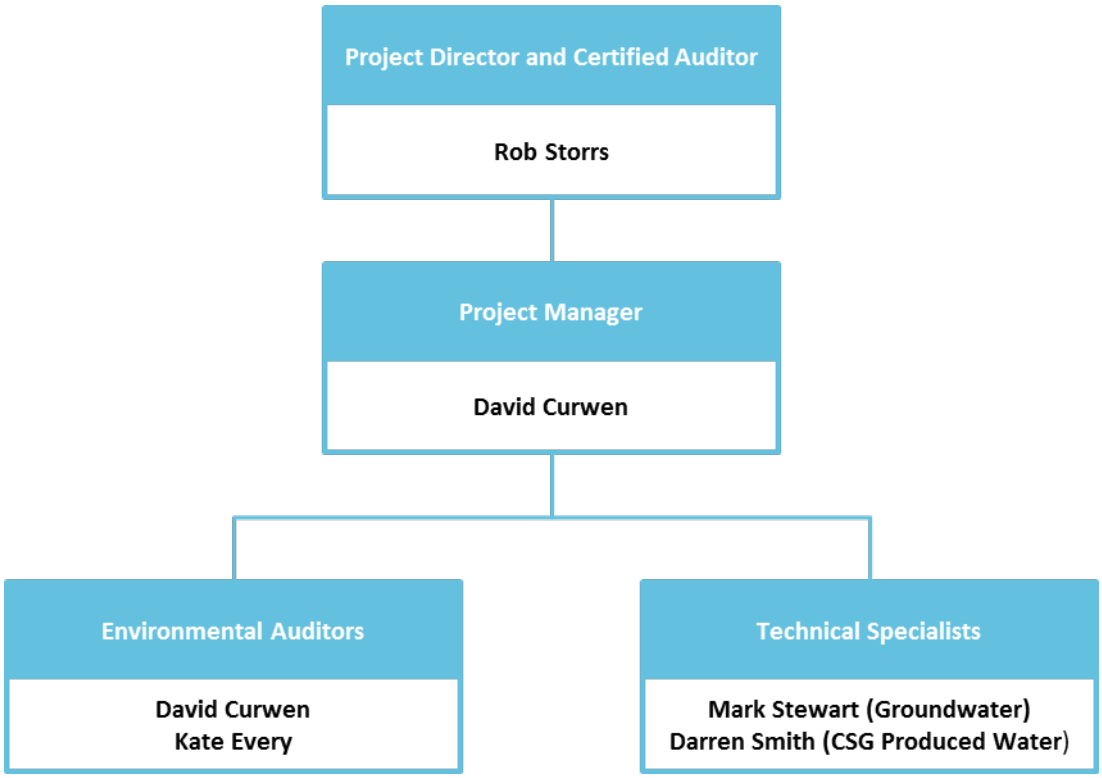


Table 1 Audit team experience and qualifications

Personnel	Qualifications	Role	Experience
Rob Storrs	BSc, Exemplar certified auditor	Project Director	21
David Curwen	BSc, MSc	Project Manager Environmental Auditor	20
Kate Every	BSc, MEnvMan	Environmental Auditor	6
Darren Smith	BEng, RPEQ	Technical specialist – CSG produced water	26
Mark Stewart	BSc	Technical specialist – Groundwater	24

3.2 Audit Criteria

The audit criteria was approved by the Department on 3 May 2016, in accordance with condition 103 of the approval (Appendix B). The criteria form a compliance evaluation table including:

- Criterion (the approval condition)
- Independent auditor comments (audit findings)
- Measurements made (evidence reviewed)
- Requirement (how compliance is to be assessed)
- Verification method
- Compliance finding.

The compliance finding ratings, in accordance with the Department's Audit Criteria and Methodology, are as follows:

- Compliance - A rating of 'compliance' is given when the auditee has complied with a condition or element of a condition
- Non-compliance - A rating of 'non-compliance' is given when the auditee has not met a condition or element of a condition
- Not applicable - A rating of 'not applicable at the time of the audit' is given when the condition or element of a condition falls outside the scope of the audit e.g. if an activity has not yet commenced
- Undetermined - A rating of 'undetermined' is given when the condition or element of a condition falls inside the scope of the audit but there is insufficient evidence to make a judgment on compliance or non-compliance
- Observation - An 'observation' may be made about issues relevant to the protection of a matter of national environmental significance when the issue is not strictly related to compliance or non-compliance with a condition or element of a condition.

The compliance evaluation table is provided in Appendix C.

3.3 Approach

The audit sought to review documentation and implementation related to CSG water management at the Talinga, Orana, Condabri, Reedy Creek and Combabula gas fields through an office-based audit. AECOM requested copies of all documentation that the scoped approval conditions required to be prepared including, but not limited to, the Stage 1 and Stage 2 CSG WMMPs, monitoring reports, and correspondence with the Department. The nature and extent of these documents were reviewed and their compliance against the requirements of the approval conditions assessed and recorded in the compliance evaluation table (Appendix C). Following the initial documentation review, the auditors interviewed key relevant Origin personnel and submitted a list of outstanding evidence to Origin prior to undertaking an audit of the implementation of the Stage 1 and Stage 2 CSG WMMPs.

3.4 Assumptions

The audit evidence is based on samples of the available information, which is considered to be representative of the operations across the Walloons gas fields and best capture the potential for impacts to MNES at the time of the audit. This approach and the level of uncertainty is consistent with the guidance provided in ISO 19011.

All documentary evidence provided by individuals during this audit was assumed to be current and accurate at the time of the audit. It was understood that AECOM would be notified of any updates to this documentation made during the audit, to be included as a post-audit note within the report.

Verbal communications were taken at face value unless evidence highlighted conflict or inconsistencies and warranted further investigation. Verbal communications were of particular importance when auditing conditions or events that had not yet occurred, and where no complaints had been received (i.e. in cases where there was no evidence to prove a non-event).

4.0 Audit results

4.1 Audit findings overview

The audit scope comprised conditions 50 to 61, 74 to 76, 78 and 79 of the approval. The compliance evaluation considers each of these conditions and their sub-conditions as a separate criterion. Each sub-condition was required by the Department approved audit criteria to be assessed for compliance in two ways:

- Acknowledgement and/or reflection of condition requirement in project documentation (see Documentation Checklist for audit findings)
- Implementation of condition requirement (see Implementation Checklist for audit findings).

The audit findings are documented in audit checklists, which are provided in Appendix C. A discussion of non-compliant conditions is provided in Table 2 and Table 3. The project was assessed as highly compliant, with a proportionally very low number of non-compliances given the number of sub-conditions audited.

4.2 Discussion of non-compliances

The Stage 1 CSG WMMP was approved by the Department on 21 December 2012 as satisfying the requirements of condition 50. The Stage 2 CSG WMMP was approved by the Department on 27 March 2014 as meeting the requirements of conditions 52 and 53.

At the Department's request, the Stage 1 and Stage 2 CSG WMMPs were reviewed against the conditions to assess whether all requirements have been included. Four requirements were found to not specifically be documented in the Stage 1 CSG WMMP, while all requirements were included in the Stage 2 WMMP.

Two non-compliances were identified during the audit of implementation (50f and 53a). The remainder of non-compliances identified were due to the linked nature of the approval conditions which result in additional non-compliances where only one exists. For example, conditions 51, 54, 58 and 60 all require the implementation of the Stage 1 and/or Stage 2 CSG WMMP. By virtue of a non-compliance against conditions 50f and 53a, conditions 51, 54, 58 and 60 are also assessed as non-compliant.

Table 2 Summary of conditions in non-compliance (Documentation Checklist)

Condition number	Condition requirement	Discussion of non-compliance
50a	Within 6 months from the date of the project approval, the proponent must submit for the approval of the Minister a Stage 1 Coal Seam Gas Water Monitoring and Management Plan (Stage 1 CSG WMMP) which includes at least: - groundwater drawdown limits for each potentially impacted aquifer	Groundwater drawdown limits were documented for aquifers associated with EPBC springs, rather than all potentially impacted aquifers as required by the condition. It is acknowledged that APLNG engaged in consultation with the Expert Panel for major Coal Seam Gas Projects regarding this condition prior to submission of the Stage 1 CSG WMMP.
50e	Within 6 months from the date of the project approval, the proponent must submit for the approval of the Minister a Stage 1 Coal Seam Gas Water Monitoring and Management Plan (Stage 1 CSG WMMP) which includes at least: - the estimated number, the spatial distribution and location of boreholes where hydraulic fracturing may be necessary, annual reviews of the estimate;	The Stage 1 CSG WMMP did not specifically document the requirement for an annual review of the estimated number of boreholes where hydraulic fracturing may be required. It was noted during the implementation audit that, while the Stage 1 CSG WMMP did not specifically document the requirement, the hydraulic fracturing annual review is undertaken by Origin.

Condition number	Condition requirement	Discussion of non-compliance
50i	Within 6 months from the date of the project approval, the proponent must submit for the approval of the Minister a Stage 1 Coal Seam Gas Water Monitoring and Management Plan (Stage 1 CSG WMMP) which includes at least: - performance measures, annual reporting to the Department, and publication of reports on the internet.	The Stage 1 CSG WMMP did not specifically document the requirement to provide annual reporting to the Department. It was noted during the implementation audit that, while the Stage 1 CSG WMMP did not specifically document the requirement, the provision of annual groundwater reporting to the Department has been undertaken by Origin.
53 c) ii)	In addition to the matters in the Stage 1 CSG WMMP, the Stage 2 CSG WMMP must also include: - a groundwater quality and quantity monitoring plan to monitor the aquifers underlying the project area using a statistically and hydrogeologically valid, best practice bore monitoring network across the project area and at least: • the number and locations of monitoring bores and their flow, pressure, head, and water quality characteristics.	The Stage 2 CSG WMMP did not specifically document water quality characteristics for all parameters. It was noted that the absent characteristics were documented in a subsequent report, 2013-2014 Groundwater Assessment Report.

Table 3 Summary of Conditions in non-compliance (Implementation Checklist)

Condition number	Condition requirement	Discussion of non-compliance
50f	Within 6 months from the date of the project approval, the proponent must submit for the approval of the Minister a Stage 1 Coal Seam Gas Water Monitoring and Management Plan (Stage 1 CSG WMMP) which includes at least: - details of constituent components of any hydraulic fracturing agents and any other reinjected fluid(s), and their toxicity as total effluent toxicity and ecotoxicity, based on methods outlined in the National Water Quality Management Strategy;	One constituent, a foaming agent, was found to be absent from the list, however it is understood that Origin are in the process of uploading an updated constituent list to the website which includes this agent.
51	The proponent must implement the Stage 1 CSG WMMP approved in writing by the Minister, on the advice of an expert panel. The proponent must not exceed the groundwater drawdown limits for each aquifer specified in the Stage 1 CSG WMMP. The Stage 1 CSG WMMP will apply until the commencement of the approved Stage 2 CSG WMMP.	This non-compliance is due to the linked nature of the approval conditions. As Condition 51 requires implementation of the Stage 1 CSG WMMP, the non-compliance with condition 50f identified above is considered to also result in a non-compliance of condition 51.
53a)	In addition to the matters in the Stage 1 CSG WMMP, the Stage 2 CSG WMMP must also include: - an ongoing CSG water treatment program to ensure that any water to be used for re-injection, or used for other groundwater repressurisation options, is treated at least equal to the water quality of the receiving groundwater system or environment;	The pH of the injectate during an injection trial at Reedy Creek was found to be outside the range of the receiving environment. A resulting geochemistry investigation found no statistically significant degradation of formation water quality and indicated that the aquifers have the capacity to buffer the pH of the injectate to a value similar to that of the target aquifer.

Condition number	Condition requirement	Discussion of non-compliance
54	The proponent must implement the approved Stage 2 CSG WMMP, no later than 31 March 2014.	This non-compliance is due to the linked nature of the approval conditions. As Condition 54 requires implementation of the Stage 2 CSG WMMP, the non-compliance with condition 53a identified above is considered to also result in a non-compliance of condition 54.
58	The Stage 1 and Stage 2 CSG WMMP, as approved by the Minister in writing acting on advice of an expert panel, and in accordance with the timing requirements under these conditions, must be implemented	This non-compliance is due to the linked nature of the approval conditions. As Condition 58 requires implementation of the Stage 1 and 2 CSG WMMP, the non-compliance with conditions 50f and 53a identified above are considered to also result in a non-compliance of condition 58.
60	A reviewed and updated Stage 2 CSG WMMP must be submitted to the Minister for written approval. Commencement of each new stage of gas field development must not occur without approval. The proponent may undertake activities that are critical to commencement that are associated with mobilisation of plant and equipment, materials, machinery and personnel prior to the start of development only if such activities will have no adverse impact on MNES, and only if the proponent has notified the Department in writing before the activity is undertaken. The approved CSG WMMP must be implemented for the relevant gas field area.	This non-compliance is due to the linked nature of the approval conditions. As Condition 60 requires implementation of the Stage 2 CSG WMMP, the non-compliance with condition 53a identified above is considered to also result in a non-compliance of condition 60.

5.0 Conclusions and Recommendations

5.1 Conclusions

The audit identified and focused on a representative sample of documentation and site implementation across the Walloons gas fields to assess compliance against specific conditions of the Project's approval (EPBC 2009/4974).

A number of conclusions have been identified as a result of this audit:

- Overall, the project was assessed as highly compliant against the scoped conditions of the audit. With the exception of the non-compliances identified in Section 4.0, the activities are being undertaken in accordance with the approval conditions
- No evidence of impact to MNES (other than as approved by the Department), was identified during the audit
- Environmental non-compliances with the scoped conditions were primarily associated with minor omissions in documentation, or the result of linked conditions
- Origin personnel interviewed were confident and highly knowledgeable regarding the requirements of the scoped conditions.

5.2 Recommendations

The following recommendations are proposed to assist Origin in achieving ongoing compliance:

- Ensure all condition requirements are documented in future revisions of the CSG WMMP, and include cross reference tables to clearly identify where compliance is achieved in relevant documents
- Where appropriate, where conditions are no longer relevant to current Australia Pacific LNG activities at the Walloons Gas Field Development Area (such as the Stage 1 CSG WMMP), consider seeking an amendment to the approval to reflect this
- Where feasible, bring the revision cycle of the CSG WMMP and appended components into line.

Appendix A

Approval of AECOM as auditors

Australian Government
Department of the Environment

Our reference: EPBC 2009/4974

Contact Officer: Nicholas Scholar
Telephone: (02) 6274 1284
Facsimile: (02) 6274 1878
Email: Audit@environment.gov.au

Mr Rob Ully
Integrated Gas Environmental Manager
Origin
Level 5, 135 Coronation Drive
Milton QLD 4064

Dear Mr Ully

Australia Pacific LNG Pty Limited – *to develop, construct, operate and decommission the coal seam gas field component of the Australia Pacific LNG Project in the Walloons gas fields within the Surat Basin in south central Queensland* – Appointment of Independent Auditor

Thank you for your correspondence dated 26 February 2016, regarding the directed independent audit of compliance for the approval (dated 21 February 2011) under the *Environment Protection and Biodiversity Conservation Act 1999*.

You have sought (in accordance with condition 102 of the approval), for an audit team from AECOM Services Pty Ltd to be appointed as the independent auditor.

This request has been assessed and I am pleased to inform you, as delegate of the Minister, that I approve the appointment of the audit team from AECOM Services Pty Ltd as the independent auditor.

If you would like to discuss this matter further please contact Mr Nicholas Scholar on (02) 6274 1284 or email Audit@environment.gov.au.

Yours sincerely

S. Gaddes

Shane Gaddes
Assistant Secretary
Compliance & Enforcement Branch
Environment Standards Division

16 March 2016

Appendix B

Approval of audit criteria

Australian Government
Department of the Environment

Our reference: EPBC 2009/4974

Mr Rob Ully
Integrated Gas Environmental Manager
Origin
Level 5, 135 Coronation Drive
Milton QLD 4064

Dear Mr Ully

Directed audit of the approval granted to *develop, construct, operate and decommission the coal seam gas field component of the Australia Pacific LNG Project in the Walloons gas fields within the Surat Basin in south central Queensland* (EPBC 2009/4974) – Approval of audit criteria and methodology

I refer to your email of 22 April 2016 in which you submitted revised audit criteria and methodology for the directed audit of *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) approval 2009/4974.

Officers of the Department of the Environment (the Department) have reviewed the audit criteria and methodology and consider that it provides sufficient scope for an assessment of compliance with the conditions attached to the approval. On this basis, as delegate of the Minister for the Environment, I am pleased to inform you that I approve the proposed audit criteria and methodology.

I request that you please submit the audit report to the Department within ten (10) weeks from the date of this letter. I look forward to receiving a copy of the audit report.

Finally, I take this opportunity to remind you of the Department's expectations in terms of audit reports being required to include details of measurements made, sample sizes and audit evidence obtained. In considering the audit evidence obtained:

- there must not be an over-reliance on representations made by the approval holder or their representatives (i.e. audit findings should be based on independently verifiable third party evidence);
- where sample records are referenced (e.g. pre-clearance surveys) a representative random sample of a minimum of 10 per cent of the records must be reviewed; and
- statements that support audit findings must not include terms that are open to interpretation and they must provide sufficient context to inform the basis for audit conclusions.

Should you require any further information please contact Mr Nicholas Scholar on 02 6274 1284 or email Audit@environment.gov.au.

Yours sincerely

S Gaddes

Shane Gaddes
Assistant Secretary
Compliance & Enforcement Branch
Environment Assessment and Compliance Division
3 May 2016

Appendix C

Compliance evaluation tables

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
Coal Seam Gas Water Monitoring and Management Plan						
Stage 1 CSG Water Monitoring and Management Plan						
CONDITION 50						
50	Within 6 months from the date of the project approval, the proponent must submit for the approval of the Minister a Stage 1 Coal Seam Gas Water Monitoring and Management Plan (Stage 1 CSG WMMP) which includes at least:	The Approval (EPBC2009/4974) was granted on 21 February 2011. An initial Stage 1 WMMP was submitted to the Minister on 19 August 2011, within the required 6 month timeframe. The Stage 1 WMMP was subsequently approved by the Minister on 21 December 2012. The date of submission was identified from the Minister's approval letter.	Letter from Tony Burke (the Minister) to Page Maxson (Australia Pacific LNG), 21 December 2012	Submission of Stage 1 CSG WMMP to Minister within 6 months of project approval	Sight evidence of submission within time frame	Compliant
Groundwater monitoring and management						
50a	groundwater drawdown limits for each potentially impacted aquifer;	Section 2.1.1.2 of the Stage 1 WMMP states that "drawdown limits will be specific to each relevant Australia Pacific LNG groundwater monitoring bore within the same aquifer as the EPBC spring source." Default drawdown limits (Condition 49 of the approval) are specified for aquifers which contain EPBC spring sources only, and not each potentially impacted aquifer as required by condition 50a. It is noted that the jurisdiction of the Department at the time of the Stage 1 CSG WMMP related to communities dependent on springs and that the plan addressed these requirements. The Expert Panel for major Coal Seam Gas Projects noted that "In the panel's view Australia Pacific LNG has developed a reasonable approach to monitoring drawdown in the EPBC-listed spring complexes that should as a general approach provide sufficient early warning for potential groundwater drawdown limits for potentially impacted aquifers. However limitations in the current approach mean the methodology proposed is not adequate to effectively determine groundwater drawdown limits for each potentially impacted aquifer."	Stage 1 CSG Water Monitoring and Management Plan, Q-LNG01-95-MP-0147, Revision 3, 5 December 2012 Expert Panel for major Coal Seam Gas Projects Advice on the Australia Pacific LNG Stage 1 Water Monitoring and Management Plan	Requirement to be documented in Stage 1 CSG WWMP	Review Stage 1 CSG WMMP for inclusion of requirement	Not compliant
50b	a program and schedule for aquifer connectivity studies and monitoring of relevant aquifers to determine hydraulic connectivity;	A program for interconnectivity studies, including monitoring, is included in Section 4 of the Subsidence, Aquitard Integrity and Aquifer Interconnectivity Project Plan (Appendix A to the Stage 1 WMMP). A schedule of implementation is included in Section 5 of the Subsidence, Aquitard Integrity and Aquifer Interconnectivity Project Plan (Appendix A to the Stage 1 WMMP).	Subsidence, Aquitard Integrity and Aquifer Interconnectivity Project Plan, Q- LNG01-10-MP-0018, Revision 0, 19 August 2011	Requirement to be documented in Stage 1 CSG WWMP	Review Stage 1 CSG WMMP for inclusion of requirement	Compliant
50c	a program and schedule for field piloting of aquifer reinjection of treated CSG water and other groundwater repressurisation techniques;	A program and schedule for field piloting of aquifer reinjection is included in the Aquifer Injection Feasibility Studies (Appendix B to the Stage 1 WMMP)	Australia Pacific LNG Upstream Phase 1 Aquifer Injection Feasibility Studies, Q-LNG01-95-MP-0146, Revision 1, 5 December 2012 Revision 3, 11 March 2014	Requirement to be documented in Stage 1 CSG WWMP	Review Stage 1 CSG WMMP for inclusion of requirement	Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
50d	early warning indicators where drawdown thresholds are being approached;	Section 2.4 of the the Stage 1 WMMP addresses early warning indicators for drawdown at aquifers which are EPBC spring sources. Early warning indicators are provided for aquifers which have been identified in the plan (Section 2.1.1.2). Note that early warning indicators have not been addressed for all potentially impacted aquifers. It is noted that the jurisdiction of the Department at the time of the Stage 1 CSG WMMP related to communities dependent on springs and that the plan addressed these requirements. The Expert Panel for major Coal Seam Gas Projects noted that "In the panel's view Australia Pacific LNG has developed a reasonable approach to monitoring drawdown in the EPBC-listed spring complexes that should as a general approach provide sufficient early warning for potential groundwater drawdown limits for potentially impacted aquifers."	Stage 1 CSG Water Monitoring and Management Plan, Q-LNG01-95-MP-0147, Revision 3, 5 December 2012 Expert Panel for major Coal Seam Gas Projects Advice on the Australia Pacific LNG Stage 1 Water Monitoring and Management Plan	Requirement to be documented in Stage 1 CSG WWMP	Review Stage 1 CSG WMMP for inclusion of requirement	Compliant
Hydraulic fracturing						
50e	the estimated number, the spatial distribution and location of boreholes where hydraulic fracturing may be necessary, annual reviews of the estimate;	The estimated number, spatial distribution and location of wells for hydraulic fracturing are addressed in Section 3.1 of the Stage 1 WMMP. The requirement for annual review is documented in Revision 0 of the Hydraulic Fracture Stimulation Report, which is not referenced in the WMMP. The requirement for annual reviews is not addressed in the Stage 2 Hydraulic Fracture Stimulation Report (Component 6 of the Stage 2 WMMP). Auditors advised that the Stage 2 Hydraulic Fracture Stimulation Report is currently under review for revision.	Stage 1 CSG Water Monitoring and Management Plan, Q-LNG01-95-MP-0147, Revision 3, 5 December 2012 Hydraulic Fracture Stimulation Report, Q-LNG01-15-TR-1802, Revision 0, 21 March 2013 Hydraulic Fracture Stimulation, Q-LNG01-15-TR-1801, Revision 2, 11 March 2014	Requirement to be documented in Stage 1 CSG WWMP	Review Stage 1 CSG WMMP for inclusion of requirement	Not compliant
50f	details of constituent components of any hydraulic fracturing agents and any other reinjected fluid(s), and their toxicity as total effluent toxicity and ecotoxicity, based on methods outlined in the National Water Quality Management Strategy;	Consituent components of hydraulic fracturing fluids is addressed in Section 3.2 of the Stage 1 WMMP. Toxicity and ecotoxicity are addressed in Section 3.3 of the Stage 1 WMMP.	Stage 1 CSG Water Monitoring and Management Plan, Q-LNG01-95-MP-0147, Revision 3, 5 December 2012	Requirement to be documented in Stage 1 CSG WWMP	Review Stage 1 CSG WMMP for inclusion of requirement	Compliant
Surface water monitoring						
50g	an ongoing water quality and quantity surface water monitoring plan that includes at least:					
50g i)	identification of the surface and aquatic systems to be monitored and their environmental values, water quality, and environmental characteristics, and the rationale for selection	Surface and aquatic systems to be monitored are identified in Section 2 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP). Environmental values, water quality objectives and rationale for selection are also addressed in Section 2.	Stage 1 Coal Seam Gas Water Monitoring and Management Plan: Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 3, 29 October 2012	Requirement to be documented in Surface water monitoring plan	Review Surface water monitoring for inclusion of requirement	Compliant
50g ii)	the number and locations of monitoring sites upstream and downstream of proposed discharge of CSG water (whether treated water, amended water or raw water), including test and reference sites upstream and downstream and before and after any proposed discharge;	Monitoring sites, including location and numbers of test and reference sites, are addressed in in Section 3 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP) for Talinga/Condarbi Development Areas. There are no locations provided from the Combabula Development Area as no CSG water is intended to be discharged to surface watercourses.	Stage 1 Coal Seam Gas Water Monitoring and Management Plan: Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 3, 29 October 2012	Requirement to be documented in Surface water monitoring plan	Review Surface water monitoring for inclusion of requirement	Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
50g iii)	the frequency of the monitoring and rationale for the frequency;	The frequency of monitoring is addressed in Section 3.2 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP). The rationale for the frequency is addressed in Section 3.3 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP).	Stage 1 Coal Seam Gas Water Monitoring and Management Plan: Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 3, 29 October 2012	Requirement to be documented in Surface water monitoring plan	Review Surface water monitoring for inclusion of requirement	Compliant
50g iv)	baseline data for each monitoring site for comparison of monitoring results over the life of the project;	Section 4 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D of the Stage 1 WMMP) refers to the Australia Pacific LNG website (Attachment 22-CSG water management plan, Section 5- Existing Environment) for baseline data compiled in the environmental impact statement (EIS) process. The information relating to baseline water quality and aquatic habitats was sighted by the auditors in EIS Volume 5 Attachment 17: Aquatic Ecology, Water Quality and Geomorphology Impact Assessment - Gas Fields on the Australia Pacficic LNG website.	Stage 1 Coal Seam Gas Water Monitoring and Management Plan: Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 3, 29 October 2012	Requirement to be documented in Surface water monitoring plan	Review Surface water monitoring for inclusion of requirement	Compliant
50g v)	the approach to be taken to analyse the results including the methods to determine trends to indicate potential impacts;	Data analysis is addressed in Section 5 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP).	Stage 1 Coal Seam Gas Water Monitoring and Management Plan: Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 3, 29 October 2012	Requirement to be documented in Surface water monitoring plan	Review Surface water monitoring for inclusion of requirement	Compliant
50g vi)	threshold values that protect relevant MNES (such as reporting or control line values for additional investigation, more intensive management action, make good, and cease operations) at which management actions will be initiated to respond to escalating levels of risk and designed to protect water quality and the associated environmental values of surface and aquatic systems;	Threshold values that protect MNES are addressed in Section 6 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP).	Stage 1 Coal Seam Gas Water Monitoring and Management Plan: Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 3, 29 October 2012	Requirement to be documented in Surface water monitoring plan	Review Surface water monitoring for inclusion of requirement	Compliant
50g vii)	water treatment and amendment methods and standards;	Water treatment methods are addressed in Section 7 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP).	Stage 1 Coal Seam Gas Water Monitoring and Management Plan: Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 3, 29 October 2012	Requirement to be documented in Surface water monitoring plan	Review Surface water monitoring for inclusion of requirement	Compliant
50g viii)	water storage locations and volumes including any storage and volumes required to pilot or implement reinjection or other groundwater repressurisation techniques;	Untreated CSG water storage locations and volumes addressed in Section 9.1 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP). Treated CSG water storage locations and volumes addressed in Section 9.3 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP). Reinjection volumes are addressed in Sections 9.4 and 9.5 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP). Reinjection is the only repressurisation technique applied by Australia Pacific LNG.	Stage 1 Coal Seam Gas Water Monitoring and Management Plan: Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 3, 29 October 2012	Requirement to be documented in Surface water monitoring plan	Review Surface water monitoring for inclusion of requirement	Compliant
50g ix)	water use or disposal options and methods (whether for beneficial use or not) including frequency, volumes, quality and environmental values documented for each receiving environment;	Water management, use and disposal options and methods are addressed in Section 8 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP).	Stage 1 Coal Seam Gas Water Monitoring and Management Plan: Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 3, 29 October 2012	Requirement to be documented in Surface water monitoring plan	Review Surface water monitoring for inclusion of requirement	Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
50g x)	brine storage locations and volumes, and brine crystal waste management;	Brine storage locations and volumes are addressed in Section 9.2 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP). Brine crystal management is addressed is Section 10.3 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP).	Stage 1 Coal Seam Gas Water Monitoring and Management Plan: Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 3, 29 October 2012	Requirement to be documented in Surface water monitoring plan	Review Surface water monitoring for inclusion of requirement	Compliant
50g xi)	emergency water discharges, their volumes and quality;	Emergency water discharge is addressed in Section 11 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP). Section 11 states that at the date of the revision (29 October 2012) no emergency discharges had occurred and no volume or quality information is provided in the Plan.	Stage 1 Coal Seam Gas Water Monitoring and Management Plan: Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 3, 29 October 2012	Requirement to be documented in Surface water monitoring plan	Review Surface water monitoring for inclusion of requirement	Compliant
50g xii)	references to standards and relevant policies and guidelines;	Standards, policies and guidelines are referenced in Section 14 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP).	Stage 1 Coal Seam Gas Water Monitoring and Management Plan: Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 3, 29 October 2012	Requirement to be documented in Surface water monitoring plan	Review Surface water monitoring for inclusion of requirement	Compliant
Response actions						
50h	mechanisms to avoid, minimise and manage risk of adverse impacts and response actions and timeframes that can be taken by the proponent if:					
50h i)	threshold values for surface water quality and water environmental values specified in the CSG WMMP are exceeded;	Section 6 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP) provides threshold values for the protection of MNES (refer condition 50g vi)). Section 12.2.5 addresses potential management options for exceedances of these threshold values. Section 12 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP) provides response actions for exceedances of environmental authority criteria.	Stage 1 Coal Seam Gas Water Monitoring and Management Plan: Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 3, 29 October 2012	Requirement to be documented in Stage 1 CSG WWMP	Review Stage 1 CSG WMMP for inclusion of requirement	Compliant
50h ii)	there are any unforeseen emergency discharges; and	Response actions for unforseen emergency disharges are addressed in Section 12.2.1 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP).	Stage 1 Coal Seam Gas Water Monitoring and Management Plan: Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 3, 29 October 2012	Requirement to be documented in Stage 1 CSG WWMP	Review Stage 1 CSG WMMP for inclusion of requirement	Compliant
Reporting						
50i	performance measures, annual reporting to the Department, and publication of reports on the internet.	The Stage 1 WMMP does not include the requirement for performance measures, annual reporting or publication of reports. Section 4 of the Stage 1 WMMP cross-references this condition with the Stage 1 Surface Water Monitoring and Management Plan. Section 13 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP) addresses performance measures and publication of reports. Section 13 refers to annual reporting to the state administering authority. No reference was identified to annual reporting to the Department.	Stage 1 Coal Seam Gas Water Monitoring and Management Plan: Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 3, 29 October 2012	Requirement to be documented in Stage 1 CSG WWMP	Review Stage 1 CSG WMMP for inclusion of requirement	Not compliant
Note						
50 (Note)	Note: A key objective of the CSG WMMP groundwater components is to maintain or restore aquifer pressure, as affected by CSG production, to levels that avoid risk of adverse impact on MNES.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	Not applicable (Note)
Stage 1 CSG Water Monitoring and Management Plan						

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
51	The proponent must implement the Stage 1 CSG WMMP approved in writing by the Minister, on the advice of an expert panel. The proponent must not exceed the groundwater drawdown limits for each aquifer specified in the Stage 1 CSG WMMP. The Stage 1 CSG WMMP will apply until the commencement of the approved Stage 2 CSG WMMP.	The Stage 1 CSG WMMP was approved by the Minister as meeting the requirements of EPBC Approval 2009/4974 on 21 December 2012. The Stage 2 WMMP was submitted on 21 March 2013. An updated Stage 2 WMMP was submitted March 2014 and was approved by the Minister on 27 March 2014.	Letter from Tony Burke (the Minister) to Page Maxson (Australia Pacific LNG), 21 December 2012 Letter from Greg Hunt (the Minister) to Page Maxson (Australia Pacific LNG), 27 March 2014	Stage 1 CSG WMMP must be approved by the Minister - implementation audited separately	Evidence of approval by the Minister	Compliant
Stage 2 CSG Water Monitoring and Management Plan						
52	Within 18 months from the date of the approval of the action the proponent must submit for the approval of the Minister, a Stage 2 Coal Seam Gas Water Monitoring and Management Plan (Stage 2 CSG WMMP). The proponent must allow a further 3 months for the Minister's consideration of approval of the Stage 2 CSG WMMP including seeking advice from an expert panel.	An extension to submission date to 22 January 2013 was approved by the Minister. A request to extend the submission date to 22 March 2013 was made by Australia Pacific LNG on 4 December 2012, and approved on 21 December 2012. The Stage 2 WMMP was submitted on 21 March 2013. An updated Stage 2 WMMP was submitted March 2014 and was approved by the Minister on 27 March 2014.	Letter from Tony Burke (the Minister) to Page Maxson (Australia Pacific LNG), 17 August 2012 Letter from Rob Ully (Origin) to Tony Burke (the Minister), 4 December 2012 Letter from Tony Burke (the Minister) to Page Maxson (Australia Pacific LNG), 21 December 2012 Letter from Greg Hunt (the Minister) to Page Maxson (Australia Pacific LNG), 27 March 2014	Submission of Stage 2 CSG WMMP to Minister within 18 months of project approval	Sight evidence of submission within time frame	Compliant
53	In addition to the matters in the Stage 1 CSG WMMP, the Stage 2 CSG WMMP must also include:					
Groundwater monitoring and management						
53a	an ongoing CSG water treatment program to ensure that any water to be used for re-injection, or used for other groundwater repressurisation options, is treated at least equal to the water quality of the receiving groundwater system or environment;	This requirement is documented in Section 3.3 of the Aquifer Injection Feasibility Studies report (Component 3 of the Stage 2 WMMP).	Australia Pacific LNG Upstream Phase 1 Aquifer Injection Feasibility Studies, Q-LNG01-95-MP-0146, Revision 3, 11 March 2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Compliant
53b	the method, data and the evidentiary standards necessary to support a conclusion that an aquifer from which CSG water is being extracted is not hydraulically connected to other aquifers;	Australia Pacific LNG have not undertaken studies to support a conclusion that aquifers are not hydraulically connected, as Australia Pacific LNG does not intend to apply for exemptions under this condition (Section 6 of the Stage 2 WMMP).This condition is considered to be not applicable as no action is required by the approval holder.	Stage 2 CSG Water Monitoring and Management Plan, Q-LNG01-15-MP-2105, Revision 2, 11/03/2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Not Applicable
53c	a groundwater quality and quantity monitoring plan to monitor the aquifers underlying the project area using a statistically and hydrogeologically valid, best practice bore monitoring network across the project area, and at least;	This requirement is documented in the Groundwater Monitoring Plan (Component 2 of the Stage 2 WMMP).	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Compliant
		The methods and procedures to monitor aquifers underlying the project area are considered statistically and hydrogeologically valid. The Australia Pacific LNG groundwater monitoring framework adopted is based on adaptive management. This is or will be done based on implementing a modelling (prediction) – monitoring (validate and asses) – management (response) approach. This approach is considered suitable for the large scale CSG operations, varying geological and hydrogeological regimes, and the location of receptors. It is considered that this approach to augment the groundwater monitoring network and increase monitoring frequency, in response to predicted impacts, will facilitate impact assessment and allow for correct and timely response.	Memorandum Mark Stewart (AECOM) 24 May 2016	The groundwater quality and quantity monitoring plan outlines methods and procedures to monitor the aquifers underlying the project area using a statistically and hydrogeologically valid?		Compliant
53c i)	the aquifers to be monitored and the rationale for selection;	A list of monitoring bores, including target aquifers, is listed in Appendix A of the Groundwater Monitoring Plan (Component 2 of the Stage 2 WMMP). The rationale is also addressed in Sections 2 and 3.	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
		The process for aquifer selection is included in Section 3.1.1 of the Groundwater Monitoring Plan (Component 2 of the Stage 2 WMMP).	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014	The process for aquifer selection is outlined in the plan?		Compliant
53c ii)	the number and locations of monitoring bores and their flow, pressure, head, and water quality characteristics;	A list of monitoring bores, including locations and baseline water level data, is listed in Appendix A of the Groundwater Monitoring Program. The 2013 Groundwater Assessment contains details on the flow, pressure and head of these bores (Section 4.2) Section 5 of the 2013 Groundwater Assessment (Component 1 of the Stage 2 WMMP) states parameters which were analysed from groundwater samples (pH, EC (both field and lab), total dissolved solids (TDS), major and minor cations, anions and metals, dissolved gases (methane, carbon dioxide), TPH/BTEX, nutrients, and isotopes). EC and pH measurements are provided by formation and discussed in the assessment. Cation-anion chemistry, metals and dissolved gases are also addressed. The water quality results for BTEX/TPH, TDS and nutrients are not presented and no cross reference to results or discussion is provided and the condition is therefore considered not compliant.	2013 Groundwater Assessment, Q-LNG01-15-TR-1801, Revision 0, 21 March 2013 Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Not compliant
		This is addressed in Section 3.1 of the Groundwater Monitoring Plan (Component 2 of the Stage 2 WMMP)	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014	There is a process and procedure in place to select bore locations and the flow, pressure, head, and water quality characteristics?		Compliant
53c iii)	the frequency of the monitoring and rationale for the frequency;	The frequency of water level/pressure monitoring is addressed in Section 3.2.1 of the Groundwater Monitoring Plan. The rationale for the frequency is addressed in Section 3.3.1 of the Groundwater Monitoring Plan (Component 2 of the Stage 2 WMMP).	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Compliant
		Section 3.3.1 of the Groundwater Monitoring Plan (Component 2 of the Stage 2 WMMP) includes a reference for determining the rationale for sampling frequency (Sundaram et al 2009). Section 3.3.1 states the frequency of water level/pressure monitoring based on this rationale.		There is a process and procedure in place to determine monitoring frequency and the reasons for selecting that frequency of monitoring?		Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
53c iv)	baseline data for each monitoring site for comparison of monitoring results over the life of the project;	Section 3.3.1 of the Groudwater Monitoring Plan states that "In accordance with the JIP, a baseline of water quality will be defined after the collection of seven (7) six-monthly water quality samples." Baseline of water quality will be defined after the collection of seven (7) six-monthly water quality samples. This equates to 3.5 years of data, plus interpretation time. Annual reports for 2013, 2013-2014, 2014-2015 have been published on the Australia Pacific LNG website. Baseline groundwater data has yet to be published as an insufficient number of samples had been collected prior to the current reporting period (2015-2016). Baseline data for those groundwater bores for which seven samples have been collected will be available in the 2015-2016 Annual Groundwater Assessment. It is currently undergoing external 3rd party review, prior to release. For those bores that have not yet been sampled 7 times, baseline water quality data will be reported in the first annual groundwater assessment following this criterion	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Not applicable
53c v)	the approach to be taken to analyse the results including the methods to determine trends to indicate potential impacts;	Analysis of monitoring results and the method of trend determination is addressed is Section 3.5 of the Groundwater Monitoring Plan (Component 2 of the Stage 2 WMMP).	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Compliant
53c vi)	groundwater drawdown threshold values and groundwater quality threshold values for each aquifer (based on regional groundwater modelling endorsed by the Minister) at which management actions (such as reporting or control line values for additional investigation, more intensive management action, make good, and cease operations) will be initiated to respond to escalating levels of risk, including increasing levels of drawdown, contamination of groundwater, or subsidence;	Triggers for drawdown at bores monitoring EPBC Springs are provided in Table 4 of the Groundwater Monitoring Plan (Component 2 of the Stage 2 WMMP). The response process if threshold vales are exceeded in included in Section 8. Section 3.5.3.2 of the Groundwater Monitoring Report states that trigger values for water quality would be provided in the first annual report following completion of the baseline data collection. Annual reports for 2013, 2013-2014, 2014-2015 have been published on the Australia Pacific LNG website. Baseline groundwater data has yet to be published as an insufficient number of samples had been collected prior to the current reporting period (2015-2016). Baseline data for those groundwater bores for which seven samples have been collected will be available in the 2015-2016 Annual Groundwater Assessment. It is currently undergoing external 3rd party review, prior to release. For those bores that have not yet been sampled 7 times, baseline water quality data will be reported in the first annual groundwater assessment following this criterion.	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Compliant
53c vii)	references to standards and relevant policies and guidelines;	Standards, policies and guidelines are referenced in Section 10 of the Groundwater Monitoring Plan (Component 2 of the Stage 2 WMMP).	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
53c viii)	mechanisms to monitor, avoid, minimise, manage, and respond to risks; and	Monitoring and response process related to groundwater are addressed in the Groundwater Monitoring Plan (Component 2 of the Stage 2 WMMP). Mitigation is addressed in the Groundwater Mitigation Plan (Component 4 of the Stage 2 WMMP). The Australia Pacific LNG risk assessment policy is included in Section 8.1 of the Groundwater Monitoring Plan (Component 2 of the Stage 2 WMMP).	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014 Groundwater Mitigation Plan, Q-LNG01-10-MP-0019, Revision 2, 11 March 2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Compliant
53c ix)	performance measures, annual reporting to the Department, and publication of reports on the internet;	Section 7 of the Stage 2 WMMP acknowledges that annual reporting to the Department and publications of report on the internet is a requirement of the approval. Section 9.2 of the Groundwater Monitoring Plan (Component 2 of the Stage 2 WMMP) states that the annual report will include comparison of monitoring results against triggers and threshold values.	Stage 2 CSG Water Monitoring and Management Plan, Q-LNG01-15-MP-2105, Revision 2, 11/03/2014 Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Compliant
53c (Note 1)	Note 1: Threshold values will be identified in the plan and during the life of the approval and related conditions may be varied by the Minister on advice from an expert panel to reflect the best available data and scientific information.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	Not applicable (Note)
53c (Note 2)	Note 2: For clarity, the monitoring required under this condition may be undertaken jointly with others.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	Not applicable (Note)
Response actions						
53d	an exceedance response plan that includes:					
53d i)	mechanisms to avoid, minimise and manage risk of adverse impacts of the exceedance and response actions and timeframes that can be taken by the proponent if:					
53d i) I.	threshold values for surface water quality and water environmental values specified in the CSG WMMP are exceeded;	Australia Pacific LNG has therefore developed interim project-specific WQOs for the Condamine-Balonne catchment (Section 2.6.1 of the Stage 2 Surface Water Monitoring and Management Plan)	Stage 2 CSG Water Monitoring & Management Plan: Surface Water Monitoring & Management, Q-LNG01-95-MP-1040, Revision 6, 12 March 2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Compliant
53d i) II.	threshold values specified in the CSG WMMP for aquifer drawdown or groundwater contamination are exceeded;	The exceedance response process for exceedance of threshold values is addressed in Section 8 of the Groundwater Monitoring Plan (Component 2 of the Stage 2 WMMP). Mitigation measures for the exceedance of drawdown thresholds are included in Section 5 of the Groundwater Mitigation Plan (Component 4 of the Stage 2 WMMP).	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014 Groundwater Mitigation Plan, Q-LNG01-10-MP-0019, Revision 2, 11 March 2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Compliant
53d i) III.	subsidence or surface deformation occurs which impacts on surface or groundwater hydrology;	The exceedance response process for subsidence or surface deformation is addressed in Section 8 of the Groundwater Monitoring Plan (Component 2 of the Stage 2 WMMP). The plan does not state specific mechanism to avoid, minimise and manage risk. Section 8 of the Groundwater Monitoring Plan states that, should a trigger be exceeded, a detailed management and mitigation plan would be developed.	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Compliant
53d i) IV.	there are any unforeseen emergency discharges; and	Mechanisms for the management of unplanned releases and response actions for unforseen emergency disharges are addressed in Section 12.2.1 and 12.2.2 of the Surface Water Monitoring and Management Plan (Component 5 of the Stage 2 WMMP).	Surface Water Monitoring and Management, Q-LNG01-95-MP-1040, Revision 6, 12/03/2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Compliant
53d ii)	a program and timetable for repressurisation using re-injection of CSG water from hydraulically connected aquifers back into appropriate permeable aquifers and for other groundwater repressurisation options to re-establish pressure levels and water qualities to the satisfaction of the Minister on the advice of an expert panel, in conjunction with appropriate measures to forecast and proactively manage any short-term impacts.	A schedule for reinjection is provided in Section 6 of the Aquifer Injection Feasibility Studies (Component 3 of the Stage 2 WMMP). Mitigation is addressed in Section 5 of the Groundwater Mitigation Plan (Component 4 of the Stage 2 WMMP).	Groundwater Mitigation Plan, Q-LNG01-10-MP-0019, Revision 2, 11 March 2014 Australia Pacific LNG Upstream Phase 1 Aquifer Injection Feasibility Studies, Q-LNG01-95-MP-0146, Revision 3, 11 March 2014	Requirement to be documented in Stage 2 CSG WMMP	Review Stage 2 CSG WMMP for inclusion of requirement	Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
53d (Note)	Note: The design of these groundwater repressurisation activities should be informed by a regional-scale groundwater model.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	Not applicable (Note)
Implementation of Stage 1 and Stage 2 CSG WMMP						
54	The proponent must implement the approved Stage 2 CSG WMMP, no later than 31 March 2014.			Not applicable	Implementation to be assessed separately	Not applicable (refer to implementation assessment)
55	Three months before commencement of each subsequent major stage of the proponent's gas field development the proponent must submit a revised Stage 2 CSG WMMP for approval of the Minister, who may seek the advice of an expert panel.	The Stage 1 and Stage 2 WMMP address Phase 1 of the Project (activities proposed to be undertaken in the first five years of project implementation). Auditors advised the subsequent phase is not within three months of commencing. Section 2 of the Stage 2 WMMP states that the plan "will be updated on a three yearly cycle. This cycle aligns with the tri-annual revision of the state's Underground Water Impact Report for the Surat Cumulative Management Area. The updated plan will be provided to the Department of the Environment within six months of the public release of the UWIR." The consultation draft of the Underground Water Impact Report for the Surat Cumulative Management Area was released March 2016.	Stage 2 CSG Water Monitoring and Management Plan, Q-LNG01-15-MP-2105, Revision 2, 11/03/2014 Underground Water Impact Report for the Surat Cumulative Management Area, Consultation Draft, March 2016	Submission of revised Stage 2 CSG WMMP to Minister 3 months before commencing subsequent major stages	Identification of current project stage and, if required, evidence of submission of revised Stage 2 CSG WMMP	Not applicable
56	The Coal Seam Gas Water Monitoring and Management Plan should be based on the proponent's planned staged development within the project area over the total life of the project consistent with approvals granted by the Queensland Government.	The Stage 1 (Section 1.1) and Stage 2 (Section 2) CSG WMMPs state the planned staged development within the project area. Auditors were advised that, while State-based approvals do not require a whole-of-project Groundwater Monitoring Plan to be developed and approved, individual Queensland environmental authorities require a groundwater monitoring plan for all aquifers potentially affected by petroleum activities. Whilst there are no requirements for Quensland Government approval of the CSG WMMPs, the Groundwater Monitoring Plan, included in the approved Stage 2 CSG WMMP, was prepared in order to satisfy both operational and regulatory (State and Federal) requirements. The data generated through the implementation of the plan is provided to the Office of Groundwater Impact Assessment, and is relied upon, for the preparation of the Underground Water Impact Report and associated monitoring strategies. The Surface Water Plan (Section 1.1) states that "the Australia Pacific LNG Project has and will continue to be operated in accordance with EAs issued by DEHP. "	Stage 1 CSG Water Monitoring and Management Plan, Q-LNG01-95-MP-0147, Revision 3, 5 December 2012 Stage 2 CSG Water Monitoring and Management Plan, Q-LNG01-15-MP-2105, Revision 2, 11/03/2014	Requirement to be documented in Stage 1 and Stage 2 CSG WMMP	Review Stage 1 and Stage 2 CSG WMMP for inclusion of requirement	Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
57	The proponent may only extract sufficient CSG water as is required to undertake the approved activities.	It is noted that the water present within the coal seams is generally referred to as 'associated water' as it is normally extracted with the gas stream. To produce gas from a coal seam, normally the water associated with the gas in the reservoir must first be withdrawn using artificial pump to reduce the pressure within the coal seam and liberates the adsorbed gas from the coal. Once sufficient water has been removed, or the well has been 'dewatered', the gas will begin to release from the coal seams (Section 3.1.2, Volume 2, Environmental Impact Statement). Auditors reviewed confidential documentation which shows actual water extraction is in line, or below, forecasted.	Stage 2 CSG Water Monitoring and Management Plan, Q-LNG01-15-MP-2105, Revision 2, 11/03/2014	Volumes of CSG water extracted not to exceed that required to undertake the approved activities	Review Stage 1 and Stage 2 CSG WMMP to identify volumes and verification against actual extraction figures.	Compliant
57 (Note)	Note: The purpose of this condition is to ensure that water is only extracted to the extent necessary for the extraction of coal seam gas.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	Not applicable (Note)
58	The Stage 1 and Stage 2 CSG WMMP, as approved by the Minister in writing acting on advice of an expert panel, and in accordance with the timing requirements under these conditions, must be implemented			Not applicable	Implementation to be assessed separately	Not applicable (refer to implementation assessment)
58 (Note)	Note: The proponent may incorporate requirements into plans that meet both Queensland and Commonwealth requirements.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	Not applicable (Note)
Revisions of Stage 1 and Stage 2 CSG WMMP						
59	Consistent with an adaptive management approach the Stage 2 CSG WMMP must be reviewed and updated for each new stage of gas field development: to take into account of major updates to the Regional Groundwater Model; and to address findings of Cumulative Impact Assessment Reports required by the Queensland Government and these conditions of approval	The Stage 1 and Stage 2 WMMP address Phase 1 of the Project (activities proposed to be undertaken in the first five years of project implementation). Auditors advised the subsequent phase is not within three months of commencing. The Stage 2 WMMP applies to the development until 30 April 2016, and has been staged to align with the tri-annual revision of the state's Underground Water Impact Report for the Surat Cumulative Management Area, with an additional 6 months allowance to confer with Federal regulatory agencies (Section 2 of the Stage 2 WMMP). The Department approval of the Stage 2 CSG WMMP acknowledges that the three yearly update cycle is "designed to enable the update to incorporate the groundwater modelling results of the Underground Water Impact Report."	Stage 2 CSG Water Monitoring and Management Plan, Q-LNG01-15-MP-2105, Revision 2, 11/03/2014	Review and revision of CSG WMMP before commencing subsequent major stages (Note requirement to submit to Minister three months prior as per condition 55)	Identification of current project stage and of revised CSG WMMP	Not applicable

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
60	A reviewed and updated Stage 2 CSG WMMP must be submitted to the Minister for written approval. Commencement of each new stage of gas field development must not occur without approval. The proponent may undertake activities that are critical to commencement that are associated with mobilisation of plant and equipment, materials, machinery and personnel prior to the start of development only if such activities will have no adverse impact on MNES, and only if the proponent has notified the Department in writing before the activity is undertaken. The approved CSG WMMP must be implemented for the relevant gas field area.	The Stage 1 and Stage 2 WMMP address Phase 1 of the Project (activities proposed to be undertaken in the first five years of project implementation). Auditors advised the subsequent phase is not within three months of commencing. No requirement for the plan to be reviewed and updated has been triggered. The Stage 2 WMMP applies to the development until 30 April 2016. A reviewed and updated Stage 2 CSG WMMP has not been required to be submitted to the Minister. The Department approval of the Stage 2 CSG WMMP acknowledges that the three yearly update cycle is "designed to enable the update to incorporate the groundwater modelling results of the Underground Water Impact Report."	Stage 2 CSG Water Monitoring and Management Plan, Q-LNG01-15-MP-2105, Revision 2, 11/03/2014	Submission of revised Stage 2 CSG WMMP to Minister 3 months before commencing subsequent major stages (Note requirement to submit to Minister three months prior as per condition 55) - implementation audited separately	Identification of current project stage and evidence of submission and approval of revised Stage 2 CSG WMMP.	Not applicable
61	The Minister may, through a request in writing, require that the Stage 1 or Stage 2 CSG WMMP be revised or amended, which may include requirements for amendments to address independent expert advice. Any such request must be acted on within the timeframe specified.	A request to amend Revision 2 of the Stage 1 CSG WMMP based on Expert Panel comments was made by the Minister on 25 October 2012, and clarified on 30 October 2012. No timeframe was specified in the request. Revision 3 of the Stage 1 CSG WMMP was submitted 6 December 2012. The Stage 1 WMMP was subsequently approved by the Minister on 21 December 2012.	Email from Dieter Kluger (the Department) to Ryan Morris and Andrew Moser (Origin), 25 October 2012 Email from Dieter Kluger (the Department) to Ryan Morris and Andrew Moser (Origin), 30 October 2012 Letter from Rob Ully (Origin) to Dieter Kluger (the Department), Q-LNG01-15-AT-0421, 6 December 2012	Requests by Minister to amend CSG WMMP incorporated within specified timeframe.	Identification of requests by Minister to amend CSG WMMP, and evidence amendments made within specified timeframe	Compliant
61 (Note)	Note: The Minister may throughout the project life seek advice from experts, or an expert panel. As a consequence specific matters identified through such advice may need to be addressed in the Plan. Where such advice is sought the proponent would be provided with opportunity to submit Information and respond to the specific matters identified, in order to ensure the Plan is based on the best available information. Review requirements will facilitate adaptive management, alignment with Queensland Government approval requirements, and account for potential cumulative impacts as new scientific information becomes available over the life of the project.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	Not applicable (Note)
Notification of threshold breaches and response actions						
74	Within 10 business days of the proponent identifying monitoring outcomes that indicate a risk of reduction in groundwater pressure or water quality. The proponent must notify the Minister in writing of the trend and the proponent's response action.			Not applicable	Implementation to be assessed separately	Not applicable (refer to implementation assessment)
75	Within 10 days of identifying a surface or groundwater threshold value (for example, discharge water quality, environmental value, pressure, head, volume, or flow) being exceeded, the proponent must advise the Minister in writing of the circumstances, the threshold exceeded, the immediate action taken by the proponent, and proposed action to remedy the breach and avoid a subsequent breach.			Not applicable	Implementation to be assessed separately	Not applicable (refer to implementation assessment)
76	Immediate action may include a range of measures including but not limited to further monitoring and investigation, the ceasing of water/gas extraction and/or water discharge or use in the area affected or such other measures as are appropriate, until investigations can be completed to determine the cause and remedial action. The proponent's proposed response action must be notified to the Minister in writing			Not applicable	Implementation to be assessed separately	Not applicable (refer to implementation assessment)

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
Notifications and requirements about construction, operation, brine management and environmental management plans						
78	The proponent must notify the Department in writing when developing or revising construction, operational, groundwater, CSG water, brine management, salinity management, environmental management, or other plans where the scope of the plans relates to potential significant direct, indirect or cumulative adverse impacts on MNES, or involves management of MNES. The proponent must in the notification indicate the relevant components of such plans relating to MNES and their management, and the timeframe for development and approval of the plans under Queensland Government requirements.	The following plans have been developed by Australia Pacific LNG and approved by the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) (now Department of the Environment): -Threatened Fauna Management Plan -Threatened Flora Management Plan -Threatened Ecological Community Management Plan	Threatened Fauna Management Plan Q-LNG01-15-MP-0113 Revision 2 7 May 2013 (Revision 0 29 March 2012) Threatened Flora Management Plan Q-LNG01-15-MP-0108 Revision 0 29 March 2012 Threatened Ecological Community Management Plan Gas Fields Q-LNG01-15-MP-0114 Revision 0 29 March 2012 Letter from James Barker (SEWPaC) to Katherine Jack (Australia Pacific LNG) dated 1 September 2011. Australia Pacific LNG reference Q-LNG01-15-EA-0061	Notification to the Department where scope of developed plans related to impacts of MNES	Review of notifications to confirm inclusion of components of plans relating to MNES, the management measures, timeframes and state approval.	Compliant
79	Where the scope of the plans relates to potential significant adverse impact on MNES, or involves management of MNES the plans must be submitted to the Minister for approval of those components. Approved components of plans must be implemented.	The following plans have been developed by Australia Pacific LNG and approved by the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) (now Department of the Environment): -Threatened Fauna Management Plan -Threatened Flora Management Plan -Threatened Ecological Community Management Plan	Threatened Fauna Management Plan Q-LNG01-15-MP-0113 Revision 2 7 May 2013 (Revision 0 29 March 2012) Threatened Flora Management Plan Q-LNG01-15-MP-0108 Revision 0 29 March 2012 Threatened Ecological Community Management Plan Gas Fields Q-LNG01-15-MP-0114 Revision 0 29 March 2012 Letter from James Barker (SEWPaC) to Katherine Jack (Australia Pacific LNG) dated 1 September 2011. Australia Pacific LNG reference Q-LNG01-15-EA-0061	Where notification undertaken as per Condition 78, submit plans to Minister for approval - implementation audited separately	Evidence of submission of plans identified under Condition 78 to Minister (implementation addressed separately)	Compliant
79 (Note)	Note: Where efficiency will be enhanced the proponent may also prepare and align management plans required under these conditions with the requirements of the Queensland Government as long as the relevant matters under the conditions of this approval are clearly and adequately addressed.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	Not applicable (Note)

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
Coal Seam Gas Water Monitoring and Management Plan						
Stage 1 CSG Water Monitoring and Management Plan						
CONDITION 50						
50	Within 6 months from the date of the project approval, the proponent must submit for the approval of the Minister a Stage 1 Coal Seam Gas Water Monitoring and Management Plan (Stage 1 CSG WMMP) which includes at least:	The Approval (EPBC2009/4974) was granted on 21 February 2011. An initial Stage 1 WMMP was submitted to the Minister on 19 August 2011, within the required 6 month timeframe. The Stage 1 WMMP was subsequently approved by the Minister on 21 December 2012. The auditors did not sight a submission letter, and consider compliance based on documentation provided by the Minister.	Letter from Tony Burke (the Minister) to Page Maxson (Australia Pacific LNG), 21 December 2012	Submission of Stage 1 CSG WMMP to Minister within 6 months of project approval	Sight evidence of submission within time frame. Check approval date for EPBC Act approval and the submission date of the WMMP.	Compliant
Groundwater monitoring and management						
50a	groundwater drawdown limits for each potentially impacted aquifer;			Groundwater drawdown limits in WMMP are not exceeded	Review groundwater monitoring reports to identify limits in WMMP are monitored and identify if exceedances of limits have occurred.	
		Section 2.1.1.2 of the Stage 1 WMMP states that "drawdown limits will be specific to each relevant Australia Pacific LNG groundwater monitoring bore within the same aquifer as the EPBC spring source." Default drawdown limits (Condition 49 of the approval) are specified for aquifers which contain EPBC spring sources only, and not each potentially impacted aquifer as required by condition 50a. It is noted that the jurisdiction of the Department at the time of the Stage 1 CSG WMMP related to communities dependent on springs and that the plan addressed these requirements. The Expert Panel for major Coal Seam Gas Projects noted that "In the panel's view APLNG has developed a reasonable approach to monitoring drawdown in the EPBC-listed spring complexes that should as a general approach provide sufficient early warning for potential groundwater drawdown limits for potentially impacted aquifers. However limitations in the current approach mean the methodology proposed is not adequate to effectively determine groundwater drawdown limits for each potentially impacted aquifer."	Stage 1 CSG Water Monitoring and Management Plan, Q-LNG01-95-MP-0147, Revision 3, 5 December 2012 Expert Panel for major Coal Seam Gas Projects Advice on the Australia Pacific LNG Stage 1 Water Monitoring and Management Plan	have water drawdown limits been determined for each potentially impacted aquifer?		Not applicable – assessed as not compliant under documentation audit
		Auditors advised water extraction commenced at Talinga January 2012, then at Condabri Central August 2013. Groundwater monitoring commenced in 2012. Groundwater monitoring annual reports sighted for 2013, 2014, and 2015. Auditors sighted notification to Department on 10 June 2016 of groundwater trigger exceedances, including planned actions in accordance with actions described in the plan.	2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015 Letter from Rob Ully (Origin) to Shane Gaddes (the Department) Subject Early Warning System Groundwater drawdown trigger exceedances, dated 10 June 2016. Letter from (Origin) to Shane Gaddes (the Department), subject: Further detail requested on data within the Annual Monitoring Report, 5 February 2016 Q-LNG01-15-AT1131	review groundwater level monitoring reports to determine if limits have been exceeded and action taken in these circumstances		Compliant
50b	a program and schedule for aquifer connectivity studies and monitoring of relevant aquifers to determine hydraulic connectivity;			Aquifer connectivity studies undertaken as per program and schedule in WMMP	Review aquifer connectivity studies and monitoring reports to identify whether frequency and location of studies is in accordance with WMMP.	
		The program for aquifer connectivity studies documented in Section 4 of the Subsidence, Aquitard Integrity and Aquifer Interconnectivity Project Plan has been implemented:. The implementation is documented in the annual groundwater groundwater reports: 2013 Groundwater Assessment Section 3.2.1; 2013-2014 Groundwater Assessment Section 8.3; 2014-2015 Groundwater Assessment Section 3.2.1	2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	a program for aquifer connectivity studies and monitoring of relevant aquifers to determine hydraulic connectivity has been implemented in accordance with the WMMP		Compliant
		The frequency for aquifer connectivity studies documented in Section 5 of the Subsidence, Aquitard Integrity and Aquifer Interconnectivity Project Plan has been implemented has been implemented:. The implementation is documented in the annual groundwater groundwater reports: 2013 Groundwater Assessment Section 3.2.1; 2013-2014 Groundwater Assessment Section 8.3; 2014-2015 Groundwater Assessment Section 3.2.1	2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	a schedule for aquifer connectivity studies and monitoring of relevant aquifers to determine hydraulic connectivity has been implemented in accordance with the WMMP		Compliant
		Hydraulic conductivity (minimum and maximum) derived from field hydraulic testing is documented in Table 3 of the 2014-2015 Groundwater Assessment Report. These estimates of hydraulic conductivity allows the degree of connectivity to be assessed with broad conclusions regarding the vertical and lateral connectivity of formations described in Section 4.3. Section 8.3 of the 2013-2014 Groundwater Assessment states that "There has been no indication of transmission of pressure across formations as a result of CSG production to date, or in long term hydraulic testing undertaken as part of project activities including injection trials."	2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	has hydraulic connectivity been determined as a result of the aquifer connectivity studies and monitoring of relevant aquifers?		Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
50c	a program and schedule for field piloting of aquifer reinjection of treated CSG water and other groundwater repressurisation techniques;			Field piloting of groundwater repressurisation techniques undertaken as per program and schedule in WMMP	Review records of reinjection and repressurisation to identify whether schedule and location is in accordance with WMMP.	
		The trial process and data collection described in the Aquifer Injection Feasibility Studies (Appendix B to the Stage 1 WMMP), is reflected in the Injection Trial Reports sighted by the auditors, including field and laboratory tests for pressure and quality.	Aquifer Injection Trial at Reedy Creek – Gubberamunda Sandstone Technical Report Q-4255-15-RP-038, Revision 1, 21/01/2015 Aquifer Injection Trial at Reedy Creek – Hutton Sandstone Technical Report Q-4255-15-RP-037, Revision A, 19/08/2014 Aquifer Injection Trial at Reedy Creek – Precipice Sandstone Technical Report Q-4255-15-RP-014, Revision 3, 20/01/2015 Aquifer Injection Trial at Condabri – Precipice Sandstone Technical Report Q-4500-75-TR-0001, Revision 0, 23/12/2015 Memorandum Lauren Helm (Origin) to Ryan Morris (Origin) Subject: Talinga Injection Scheme - Subsurface Preliminary Feasibility Assessment 2 August 2012	a program for field piloting of aquifer reinjection of treated CSG water and other groundwater repressurisation techniques has been implemented in accordance with the WMMP		Compliant
		A program and schedule for field piloting of aquifer reinjection is included in the Aquifer Injection Feasibility Studies (Appendix B to the Stage 1 WMMP). Condabri - scheduled in the WMMP to commence Q2 2013 (Revision 1) then Q2/Q3 2014 (Revision 3). Precipice Sandstone commenced 28 October 2014. Talinga - scheduled in the WMMP to commence Q1 2013 - no documentation provided showing actual commencement date Reedy Creek - scheduled in the WMMP to commence December 2012. Gubberamunda commenced 24 March 2013, Hutton 28 March 2013, and Precipics 27 March 2013. As no trials were commenced prior to the scheduled date, this is considered compliant with the condition.	Aquifer Injection Trial at Reedy Creek – Gubberamunda Sandstone Technical Report Q-4255-15-RP-038, Revision 1, 21/01/2015 Aquifer Injection Trial at Reedy Creek – Hutton Sandstone Technical Report Q-4255-15-RP-037, Revision A, 19/08/2014 Aquifer Injection Trial at Reedy Creek – Precipice Sandstone Technical Report Q-4255-15-RP-014, Revision 3, 20/01/2015 Aquifer Injection Trial at Condabri – Precipice Sandstone Technical Report Q-4500-75-TR-0001, Revision 0, 23/12/2015 Memorandum Lauren Helm (Origin) to Ryan Morris (Origin) Subject: Talinga Injection Scheme - Subsurface Preliminary Feasibility Assessment 2 August 2012	a schedule for field piloting of aquifer reinjection of treated CSG water and other groundwater repressurisation techniques has been implemented in accordance with the WMMP		Compliant
50d	early warning indicators where drawdown thresholds are being approached;			Early warning indicators monitored as per WMMP	Review groundwater monitoring reports to identify limits and early warning indicators in WMMP are monitored and identify if exceedances of limits have occurred. Review reports to identify actions undertaken to prevent exceedance of thresholds following warning indicators.	
		The monitoring methods for early warning indicators for EPBC Springs outlined in the Groundwater Monitoring Plan and Joint Industry Plan, are reflected in the Annual Groundwater Reports - 2013: Section 4.2; 2014: Section 4.3.1; 2015: Section 4.4	2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	have early warning indicators for where drawdown thresholds are being approached been monitored?		Compliant
		Auditors sighted notification letter dated 10 June 2016 regarding exceedance of groundwater level drawdown triggers at three monitoring bores. Condabri-MB10-W: Auditors sighted assessment of hydrograph trend for this bore. A high level risk assessment was undertaken to determine that there is no increased risk to EPBC Springs because of CSG production. Strathblane-WB1-P: Auditors sighted assessment of hydrograph trend for this bore. Assessment concluded that this was due to measurement error and a reference water level may need to reviewed. The assessment concluded that there is no increased potential risk to EPBC Springs because of CSG production. RN13946: Auditors sighted assessment of hydrograph trend for this bore. The assessment concluded that the trigger reference is unsuitable and there is no increased potential risk to EPBC Springs because of CSG production. The investigation of these exceedances was in accordance with the WMMP.	Letter from Rob Ully (Origin) to Shane Gaddes (the Department) Subject Early Warning System Groundwater drawdown trigger exceedances, dated 10 June 2016.	what actions have been undertaken when early drawdown thresholds have been approached, following warning indicators?		Compliant
Hydraulic fracturing						
50e	the estimated number, the spatial distribution and location of boreholes where hydraulic fracturing may be necessary, annual reviews of the estimate;			Annual review of hydraulic fracturing estimate where necessary	Evidence of annual review process such as reports.	
		Auditors sighted confidential documentation relating to Technical Committee Meetings (TCM), conducted quarterly. TCM standing agenda includes field development planning relating to fracturing. Updated schedule and location planning sighted from TCM presentations 19 April 2013, 19 January 2014, 19 September 2014, 9 January 2015, and 17 May 2016. Auditors advised that no fracturing activity undertaken in 2013/2014. Fracturing was undertaken in 2015, and activities are planned for 2016.	Confidential documentation sighted	evidence of the annual review of the estimated number, the spatial distribution and location of boreholes where hydraulic fracturing may be necessary,		Compliant
50f	details of constituent components of any hydraulic fracturing agents and any other reinjected fluid(s), and their toxicity as total effluent toxicity and ecotoxicity, based on methods outlined in the National Water Quality Management Strategy;			This component of the plan is implemented.	Review inventory of hydraulic fracturing agents used against list of agents in WMMP, identify that toxicity is recorded as required by the WMMP.	
		Auditors advised that constituents for fracturing are determined on an individual well basis using simulator software and documented in a design report (confidential, not sighted). A post job report is prepared by the contractor following fracturing which documents the quantity of chemical used. Auditors reviewed 31 post job reports against fracturing constituents described in the CSG WMMP and Australia Pacific LNG website. One constituent was identified in post job reports which is not listed as a constituent compound of hydraulic fracturing agents on the Australia Pacific LNG website at the time of the audit: HC-2A (foaming agent). This product is classified as hazardous according to the criteria of ASCC (skin irritation, contact with eyes, no ecological considerations). Auditors advised that the list on the website is currently being updated and will include HC-2A.	Post job reports prepared by Halliburton: Ramyard 23 (10 Stages) - 25 January 2015 Ramyard 25 (7 Stages) - 4 February 2015 Ramyard 30 (14 Stages) - 30 January 2015 No revision number or document number available.	evidence that the list of constituent components of any hydraulic fracturing agents and any other reinjected fluid(s) listed in the WMMP are used on site		Not compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
		The Stage 2 CSG WMMP stated that "based on current data, the produced fluids from hydraulically fracture stimulated wells will revert to the similar properties as formation water." An assessment of Freshwater Ecotoxicity of Coal Seam Gas Hydraulic Stimulation Fluids was undertaken by Hydrobiology in 2016. The report noted that "Overall, all flowback waters tested exhibited similar ecotoxicity responses compared with the background CSG water. This indicates similar ecotoxicity of the flowback waters at the sampled flowback stages compared with background CSG water tested." (Section 6.4.1	Freshwater Ecotoxicity of Coal Seam Gas Hydraulic Stimulation Fluids, Hydrobiology, Report Number 1, 17 June 2016	evidence that the monitoring records of toxicity and total effluent toxicity and ecotoxicity reflect the toxicity and ecotoxicity levels outlined in the WMMP		Compliant
Surface water monitoring						
50g	an ongoing water quality and quantity surface water monitoring plan that includes at least:			Evidence of surface water quality and quantity monitoring including:		
50g i)	identification of the surface and aquatic systems to be monitored and their environmental values, water quality, and environmental characteristics, and the rationale for selection			Location of monitoring at aquatic systems as per Surface water monitoring plan	Review surface water quality management reports to identify if location of monitoring at aquatic systems as per plan	
		Auditors sighted Receiving Environment Monitoring Program Interim Reports for Talinga Condabri (Summer, Autumn, Winter, Spring 2015) and Reedy Creek (Summer, Autumn 2015). The Surface Water Monitoring and Management Plan provides locations and frequencies for Talinga/Condarbi only, as no discharge is intended to surface watercourses from Reedy Creek. The REMP Interim Reports are in accordance with the Surface Water Monitoring and Management Plan and are considered as evidence of implementationof this condition. Where sites could not be sampled due to landholder access, this is documented in the reports.	REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Summer 2015 - Revision 3 05/08/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Autumn 2015 - Revision 1 10/09/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Winter 2015 - Revision 1 30/11/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Spring 2015 - Revision 1 05/04/2016 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Summer 2015 Survey – Interim Report -Revision 3 30/09/2015 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Autumn 2015 Survey – Interim Report - Revision 2 01/04/2016	evidence of monitoring of surface and aquatic systems, location and frequency are implemented in accordance with the WMMP		Compliant
50g ii)	the number and locations of monitoring sites upstream and downstream of proposed discharge of CSG water (whether treated water, amended water or raw water), including test and reference sites upstream and downstream and before and after any proposed discharge;			Location of monitoring at sites as per Surface water monitoring plan	Review surface water quality management reports to identify if location and timing of monitoring for discharge is as per plan	
		Auditors sighted Receiving Environment Monitoring Program Interim Reports for Talinga Condabri (Summer, Autumn, Winter, Spring 2015) and Reedy Creek (Summer, Autumn 2015). The Surface Water Monitoring and Management Plan provides locations and frequencies for Talinga/Condarbi only, as no discharge is intended to surface watercourses from Reedy Creek. The REMP Interim Reports are in accordance with the Surface Water Monitoring and Management Plan and are considered as evidence of implementationof this condition. Where sites could not be sampled due to landholder access, this is documented in the reports.	REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Summer 2015 - Revision 3 05/08/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Autumn 2015 - Revision 1 10/09/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Winter 2015 - Revision 1 30/11/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Spring 2015 - Revision 1 05/04/2016 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Summer 2015 Survey – Interim Report -Revision 3 30/09/2015 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Autumn 2015 Survey – Interim Report - Revision 2 01/04/2016	evidence that the number and location of monitoring sites upstream of the discharge of CSG water have been implemented in accordance with the WMMP (including test and reference sites upstream and before and after any proposed discharge)		Compliant
		Auditors sighted Receiving Environment Monitoring Program Interim Reports for Talinga Condabri (Summer, Autumn, Winter, Spring 2015) and Reedy Creek (Summer, Autumn 2015). The Surface Water Monitoring and Management Plan provides locations and frequencies for Talinga/Condarbi only, as no discharge is intended to surface watercourses from Reedy Creek. The REMP Interim Reports are in accordance with the Surface Water Monitoring and Management Plan. Where sites could not be sampled due to landholder access, this is documented in the reports.	REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Summer 2015 - Revision 3 05/08/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Autumn 2015 - Revision 1 10/09/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Winter 2015 - Revision 1 30/11/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Spring 2015 - Revision 1 05/04/2016 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Summer 2015 Survey – Interim Report -Revision 3 30/09/2015 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Autumn 2015 Survey – Interim Report - Revision 2 01/04/2016	evidence that the number and location of monitoring sites downstream of the discharge of CSG water have been implemented in accordance with the WMMP (including test and reference sites downstream and before and after any proposed discharge)		Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
		Auditors sighted Receiving Environment Monitoring Program Interim Reports for Talinga Condabri (Summer, Autumn, Winter, Spring 2015) and Reedy Creek (Summer, Autumn 2015). The Surface Water Monitoring and Management Plan provides locations and frequencies for Talinga/Condarbi only, as no discharge is intended to surface watercourses from Reedy Creek. The REMP Interim Reports are in accordance with the Surface Water Monitoring and Management Plan. Where sites could not be sampled due to landholder access, this is documented in the reports.	REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Summer 2015 - Revision 3 05/08/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Autumn 2015 - Revision 1 10/09/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Winter 2015 - Revision 1 30/11/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Spring 2015 - Revision 1 05/04/2016 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Summer 2015 Survey – Interim Report -Revision 3 30/09/2015 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Autumn 2015 Survey – Interim Report - Revision 2 01/04/2016	evidence that monitoring is undertaken in accordance with the location and timeframes specified in the WMMP both up and downstream of the CSG water discharge point		Compliant
50g iii)	the frequency of the monitoring and rationale for the frequency;			Frequency of monitoring as per Surface water monitoring plan	Review surface water quality management reports to identify if frequency of monitoring for discharge is as per plan	
		Auditors sighted Receiving Environment Monitoring Program Interim Reports for Talinga Condabri (Summer, Autumn, Winter, Spring 2015) and Reedy Creek (Summer, Autumn 2015). The Surface Water Monitoring and Management Plan provides locations and frequencies for Talinga/Condarbi only, as no discharge is intended to surface watercourses from Reedy Creek. The REMP Interim Reports are in accordance with the Surface Water Monitoring and Management Plan. Where sites could not be sampled due to landholder access, this is documented in the reports.	REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Summer 2015 - Revision 3 05/08/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Autumn 2015 - Revision 1 10/09/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Winter 2015 - Revision 1 30/11/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Spring 2015 - Revision 1 05/04/2016 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Summer 2015 Survey – Interim Report -Revision 3 30/09/2015 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Autumn 2015 Survey – Interim Report - Revision 2 01/04/2016	evidence that monitoring is undertaken in accordance with the frequency specified in the WMMP		Compliant
50g iv)	baseline data for each monitoring site for comparison of monitoring results over the life of the project;			Monitoring results compared to baseline data provided in WMMP	Review surface water quality management reports to identify that monitoring results are compared to baseline data.	
		No discharges have occurred from the Talinga/Condabri WTF to surface watercourses since December 2013 - the 2015 REMPs sighted by auditors do not compare results to baseline data as there is no impact from Australia Pacific LNG operations. The 2014 REMP Annual Report compares results from receiving sites against upstream sites, and also against water quality objectives derived from pooled data from previous sampling events. No discharges have occured from the Reedy Creek WTF as the pipeline is not commissioned.	REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Summer 2015 - Revision 3 05/08/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Autumn 2015 - Revision 1 10/09/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Winter 2015 - Revision 1 30/11/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Spring 2015 - Revision 1 05/04/2016 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Summer 2015 Survey – Interim Report -Revision 3 30/09/2015 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Autumn 2015 Survey – Interim Report - Revision 2 01/04/2016 Receiving Environment Monitoring Program: Condamine River Talinga and Condabri-Central Annual Report 2014, NRA Environmental Consultants, Q-4100-15-RP-002, Revision 1, 17 March 2016	evidence that monitoring results are compared to the baseline data for each monitoring site, and evidence that this has been completed through the life of the project		Compliant
50g v)	the approach to be taken to analyse the results including the methods to determine trends to indicate potential impacts;			Analysis of results undertaken as per methods described in plan	Review surface water quality management reports to identify that analysis of monitoring is in accordance with methods described in plan.	
		The REMP interim reports are based on a template. Section 3 of each REMP report documents results. These results have been analysed in accordance with the methodology outlined in Section 5 of the Stage 1 Surface Water Monitoring and Management Plan (Appendix D to the Stage 1 WMMP).	REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Summer 2015 - Revision 3 05/08/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Autumn 2015 - Revision 1 10/09/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Winter 2015 - Revision 1 30/11/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Spring 2015 - Revision 1 05/04/2016 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Summer 2015 Survey – Interim Report -Revision 3 30/09/2015 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Autumn 2015 Survey – Interim Report - Revision 2 01/04/2016	have results been analysed in accordance with the approach and methods specified in the WMMP?		Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
		No discharges have occurred from the Talinga/Condabri WTF to surface watercourses since December 2013 - the 2015 REMPs sighted by auditors do not compare document trends as there is no impact from Australia Pacific LNG operations. Each REMP report states that results are comparable to previous REMP survey results.	REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Summer 2015 - Revision 3 05/08/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Autumn 2015 - Revision 1 10/09/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Winter 2015 - Revision 1 30/11/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Spring 2015 - Revision 1 05/04/2016 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Summer 2015 Survey – Interim Report -Revision 3 30/09/2015 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Autumn 2015 Survey – Interim Report - Revision 2 01/04/2016	Have the results of the analysis been used to determine trends to indicate potential impacts?		Compliant
50g vi)	threshold values that protect relevant MNES (such as reporting or control line values for additional investigation, more intensive management action, make good, and cease operations) at which management actions will be initiated to respond to escalating levels of risk and designed to protect water quality and the associated environmental values of surface and aquatic systems;			Documentation of thresholds and management actions to be undertaken to be undertaken in accordance with Surface water monitoring plan	Identify if an exceedances have occurred. Evidence that the Identification of exceedances and review management response is undertaken in accordance with actions described in Surface water monitoring plan (if applicable).	
		Three threshold values have been developed for the protection of the Murrary Cod. Bioassessment scores, one of the thresholds, has not been documented in the 2015 REMP quarterly reports sighted by the auditors. Bioassessment scores are documented in Appendix A of the 2014 REMP Annual Report. Auditors were advised that annual reports present the results of quarterly monitoring and includes interpretation of the results in the context of previous REMP surveys. Bioassessment scores are presented in the annual reports in accordance with this condition.	REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Summer 2015 - Revision 3 05/08/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Autumn 2015 - Revision 1 10/09/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Winter 2015 - Revision 1 30/11/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Spring 2015 - Revision 1 05/04/2016 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Summer 2015 Survey – Interim Report -Revision 3 30/09/2015 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Autumn 2015 Survey – Interim Report - Revision 2 01/04/2016 Receiving Environment Monitoring Program: Condamine River Talinga and Condabri-Central Annual Report 2014, NRA Environmental Consultants, Q-4100-15-RP-002, Revision 1, 17 March 2016	evidence that threshold values to protect MNES have been monitored		Compliant
		No discharges have occurred from the Talinga/Condabri WTF to surface watercourses since December 2013. No evidence that threshold values have been reached as REMP reports provided to auditors were only for monitoring in 2015.	REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Summer 2015 - Revision 3 05/08/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Autumn 2015 - Revision 1 10/09/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Winter 2015 - Revision 1 30/11/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Spring 2015 - Revision 1 05/04/2016 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Summer 2015 Survey – Interim Report -Revision 3 30/09/2015 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Autumn 2015 Survey – Interim Report - Revision 2 01/04/2016	when threshold levels to protect MNES are reached, have the management actions to respond to the escalating levels or risk been implemented as per the WMMP?		Not applicable
50g vii)	water treatment and amendment methods and standards;			Water treatment undertaken as per methods and standards in WMMP	Evidence of ongoing review of water treatment methods and standards and procedure for inclusion/amendment in WMMP.	
		Auditors advised that water treatment methods documented in Section 7 of the Surface Water Monitoring and Management Plan have not changed. Water treatment facilities constructed for reverse osmosis treatment with conditioning (water amendment) occuring prior to release.		has water treatment been undertaken in accordance with the methods and standards specified in the WMMP?		Compliant
		Auditors advised no amendment to water treatment methods has occurred		have water treatment methods and standards been amended as required as specified in the WMMP?		Not applicable
50g viii)	water storage locations and volumes including any storage and volumes required to pilot or implement reinjection or other groundwater repressurisation techniques;			Water storage locations and volumes as per Surface water monitoring plan	Identify location of water storage using GIS, operator checklists, site layouts and/or as built diagrams.	
		Final records of construction were sighted for the following ponds: Reedy Creek Feed and Buffer Ponds and ERT Buffer Pond (no TOWL provided for comparison) Condabri Feed and Buffer Ponds (no TOWL provided for comparison)	Final Record of Construction Separable Portion 4 (SP4), APLNG Upstream PH1 WTF, Q-4242-20-RP-0005, Revision 0, 20 March 2015 Final Record of Construction Separable Portion 2 (SP2), APLNG Upstream PH1 WTF, Q-4522-20-RP-7006, Revision 0, 28 August 2015	have the water storage locations and volumes including any storage and volumes required to pilot or implement reinjection or other groundwater repressurisation techniques been implemented in accordance with the WMMP?		Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
50g ix)	water use or disposal options and methods (whether for beneficial use or not) including frequency, volumes, quality and environmental values documented for each receiving environment;			Water use or disposal as per Surface water monitoring plan	Review records of water use and disposal, GIS and/or site layouts to identify receiving environments to verify frequency, volumes, quality and locations in accordance with WMMP.	
50g x)	brine storage locations and volumes, and brine crystal waste management;			Brine storage locations and volumes as per Surface water monitoring plan	Identify location of brine storage using GIS, site layouts and/or as built diagrams, and records of storage volumes. Site photographs to be reviewed to correspond with records.	
		Final records of construction were sighted for the following ponds: Condabri bring ponds 5&6 (TOWL documented and in accordance with SWMMP) Condabri Brine Ponds 1-4 (no TOWL provided for comparison) Reedy Creek Effluence Brine Pone and Brine Ponds 1-5 (no TOWL provided for comparison) Talinga Pond B (no TOWL provided for comparison) Talinga Pond C (TOWL documented and in accordance with SWMMP	Record of Construction Condabri Brine Ponds 5&6, APLNG Upstream PH1 WTF, Q-4522-20-RP-008, Revision 0, 29 April 2016 Final Record of Construction Separable Portion 4 (SP4), APLNG Upstream PH1 WTF, Q-4242-20-RP-0005, Revision 0, 20 March 2015 Record of Construction Talinga Pond C, APLNG Upstream PH1 WTF, Q-4100-20-RP-008, Revision 0, 22 June 2016 Talinga Pond B Record of Construction Q-4100-20-TR-012, Revision 0, 4 December 2009 Final Record of Construction Separable Portion 2 (SP2), APLNG Upstream PH1 WTF, Q-4522-20-RP-7006, Revision 0, 28 August 2015	have brine storage locations and volumes been maintained in accordance with the WMMP?		Compliant
		Auditors advised that brine waste is stored in ponds, in accordance with Section 10 of the Surface Water Monitoring and Management Plan, until a preferred management strategy is developed and implemented.		has brine crystal waste management been implemented in accordance with the WMMP?		Compliant
50g xi)	emergency water discharges, their volumes and quality;			Emergency water discharges as per Surface water monitoring plan	Review records of emergency water discharges to identify process, volumes and quality in accordance with WMMP.	
		No discharges have occurred from the Talinga/Condabri WTF to surface watercourses since December 2013. No emergency water discharges have been undertaken.1.01ML realeased for the purposes of commissioning the Condabri Central WTF in May 2015, however this is not considered an emergency release.		have events of emergency water discharges (their volumes and quality) been implemented in accordance with the WMMP?		Not applicable
50g xii)	references to standards and relevant policies and guidelines;			Relevant standards, policies and guidelines listed in WMMP are implemented.	Review surface water monitoring reports, water storage locations are in accordance with standards, policies and guidelines listed in WMMP.	
		The 2014 annual and 2015 quarterly REMP reports state monitoring is undertaken in accordance with the REMP design document, which states the relevant policies and guidelines.	REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Summer 2015 - Revision 3 05/08/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Autumn 2015 - Revision 1 10/09/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Winter 2015 - Revision 1 30/11/2015 REMP: Talinga and Condabri Central Water Treatment Facility Discharge to Condamine River Interim Report – Spring 2015 - Revision 1 05/04/2016 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Summer 2015 Survey – Interim Report -Revision 3 30/09/2015 Sediment, Water and Aquatic Ecology Monitoring Program: Yuleba Creek Autumn 2015 Survey – Interim Report - Revision 2 01/04/2016 Receiving Environment Monitoring Program: Condamine River Talinga and Condabri-Central Annual Report 2014, NRA Environmental Consultants, Q-4100-15-RP-002, Revision 1, 17 March 2016	is surface water monitoring undertaken in accordance with the relevant policies and guidelines?		Compliant
Response actions						
50h	mechanisms to avoid, minimise and manage risk of adverse impacts and response actions and timeframes that can be taken by the proponent if:					
50h i)	threshold values for surface water quality and water environmental values specified in the CSG WMMP are exceeded;			If nominated thresholds exceeded, management actions to be undertaken in accordance with CSG WMMP (note relevance to Condition 50g vi))	Identification of exceedances and review management response in accordance with actions described in CSG WMMP.	
		2015 REMP reports sighted with last discharge occuring December 2013. The 2014 Annual Report identified barium and zinc concentration above the WQO at receiving monitoring points, however concluded that these were unlikely to be related to the release of treated water due to the low concentrations of barium and zinc recorded at the release point. It is considered that no action was required.	Receiving Environment Monitoring Program: Condamine River Talinga and Condabri-Central Annual Report 2014, NRA Environmental Consultants, Q-4100-15-RP-002, Revision 1, 17 March 2016 Monthly WTF Compliance Report spreadsheet	have mechanisms to avoid, minimise and manage risk adverse impacts been implemented when threshold values for surface water quality and water environmental values specified in the CSG WMMP have been exceeded?		Not applicable
		2015 REMP reports sighted with last discharge occuring December 2013. The 2014 Annual Report identified barium and zinc concentration above the WQO at receiving monitoring points, however concluded that these were unlikely to be related to the release of treated water due to the low concentrations of barium and zinc recorded at the release point. It is considered that no action was required.	Receiving Environment Monitoring Program: Condamine River Talinga and Condabri-Central Annual Report 2014, NRA Environmental Consultants, Q-4100-15-RP-002, Revision 1, 17 March 2016 Monthly WTF Compliance Report spreadsheet	in instances where threshold values for surface water quality and water environmental values specified in the CSG WMMP have been exceeded, have management responses been undertaken in accordance with the listed procedures?		Not applicable
50h ii)	there are any unforeseen emergency discharges; and			If emergency discharges identified under Condition 50g xi), management actions to be undertaken in accordance with CSG WMMP	Review records of emergency water discharges - if required, review management actions	
		No emergency water discharges have been undertaken.1.01ML realeased for the purposes of commissioning the Condabri Central WTF in May 2015, however this is not considered an emergency release.		have mechanisms to avoid, minimise and manage risk adverse impacts been implemented in accordance with the WMMP when unforseen emergency discharges have occurred?		Not applicable

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
		No emergency water discharges have been undertaken.1.01ML realeased for the purposes of commissioning the Condabri Central WTF in May 2015, however this is not considered an emergency release.		in instances where unforseen emergency discharges have occurred, have management responses been undertaken in accordance with the listed procedures?		Not applicable
Reporting						
50i	performance measures, annual reporting to the Department, and publication of reports on the internet.			Annual report submitted to Department and published on internet	Evidence of submission of annual report to Department. Review website for publication of annual reports	
		Annual reporting to the Department, containing performance measures, were = Groundwater Assessment Report (2013, 2014, 2015) Annual Environmental Returns (2013, 2014, 2014, 2015) Evidence of submission to the Department for these documents were sighted only for the 2015 Groundwater Assessment.	Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-RP-1722, Revision 0, 20 March 2013 Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-RP-0633, Revision 0, 3 March 2014 Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-RP-0743, Revision 0, 2 February 2015 Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-AT-1135, Revision 1, 21 March 2016 2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015 Email to Shane Gaddes (the Department) from Andrew Moser (Origin), subject Annual Groundwater Assessment and potential catchup, 16 October 2015	evidence of performance measures and annual reporting to the Department		Undetermined
		Annual Environmental Returns sighted online for 2013, 2014, 2015, and 2016. Annual Groundwater Assessments sighted online for 2013, 2014 and 2015.	https://www.aplng.com.au/about-us/compliance/management-plans.html Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-RP-1722, Revision 0, 20 March 2013 Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-RP-0633, Revision 0, 3 March 2014 Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-RP-0743, Revision 0, 2 February 2015 Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-AT-1135, Revision 1, 21 March 2016 2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	evidence of publication of performance measures and annual reporting to the Department on the internet		Compliant
Note						
50 (Note)	Note: A key objective of the CSG WMMP groundwater components is to maintain or restore aquifer pressure, as affected by CSG production, to levels that avoid risk of adverse impact on MNES.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	
Stage 1 CSG Water Monitoring and Management Plan						
CONDITION 51						
51	The proponent must implement the Stage 1 CSG WMMP approved in writing by the Minister, on the advice of an expert panel. The proponent must not exceed the groundwater drawdown limits for each aquifer specified in the Stage 1 CSG WMMP. The Stage 1 CSG WMMP will apply until the commencement of the approved Stage 2 CSG WMMP.			Implementation of each requirement of WMMP, as listed under Condition 50.	Assessment of implementation of the requirements of the plan identified under Condition 50. Details of verification provided against Condition 50 a), b), c) etc.	
		This audit assessed the implementation of the Stage 1 CSG WMMP against the individual requirements of Condition 50. Non-compliances have been identified against these requirements and documented under those subconditions in this compliance evaluation table. By virtue of these non-compliances, condition 51 is also considered to be non-compliant, however the non-compliance of condition 51 does not represent any additional non-compliance by Australia Pacific LNG.		APLNG have adhered to and implemented all processes and procedures for each element and requirement of the Stage 1 CSG WMMP as approved by the Minister?		Not compliant
Stage 2 CSG Water Monitoring and Management Plan						
CONDITION 52						
52	Within 18 months from the date of the approval of the action the proponent must submit for the approval of the Minister, a Stage 2 Coal Seam Gas Water Monitoring and Management Plan (Stage 2 CSG WMMP). The proponent must allow a further 3 months for the Minister's consideration of approval of the Stage 2 CSG WMMP including seeking advice from an expert panel.	An extension to submission date to 22 January 2013 was approved by the Minister. A request to extend the submission date to 22 March 2013 was made by Australia Pacific LNG on 4 December 2012, and approved on 21 December 2012. The Stage 2 WMMP was submitted on 21 March 2013. An updated Stage 2 WMMP was submitted March 2014 and was approved by the Minister on 27 March 2014.	Letter from Tony Burke (the Minister) to Page Maxson (Australia Pacific LNG), 17 August 2012 Letter from Rob Ully (Origin) to Tony Burke (the Minister), 4 December 2012 Letter from Tony Burke (the Minister) to Page Maxson (Australia Pacific LNG), 21 December 2012 Letter from Greg Hunt (the Minister) to Page Maxson (Australia Pacific LNG), 27 March 2014	Submission of Stage 2 CSG WMMP to Minister within 18 months of project approval	Sight evidence of submission within required timeframe (within 18 months of the approval)	Compliant
Stage 2 CSG Water Monitoring and Management Plan						
CONDITION 53						
53	In addition to the matters in the Stage 1 CSG WMMP, the Stage 2 CSG WMMP must also include:					

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
Groundwater monitoring and management						
53a	an ongoing CSG water treatment program to ensure that any water to be used for re-injection, or used for other groundwater repressurisation options, is treated at least equal to the water quality of the receiving groundwater system or environment;			Water quality released to groundwater to be treated to quality of receiving environment	Review water treatment/quality reports prior to release of water to verify that quality is at least equal to that of the receiving groundwater environment.	
		This requirement is documented in Section 3.3 of the Aquifer Injection Feasibility Studies report (Component 3 of the Stage 2 WMMP).	Australia Pacific LNG Upstream Phase 1 Aquifer Injection Feasibility Studies, Q-LNG01-95-MP-0146, Revision 3, 11 March 2014	The program outlines methods and procedures to ensure that any water to be used for re-injection, or used for other groundwater repressurisation options, is treated at least equal to the water quality of the receiving groundwater system or environment?		Compliant
		CSG water treatment occurs at Reedy Creek WTF, Talinga WTF and Condabri WTF. Reinjection trials have been conducted at Reedy Creek and Condabri. Operational reinjection is occuring at Reedy Creek. Auditors advised that water treatment methods documented in Section 7 of the Surface Water Monitoring and Management Plan have not changed. Water treatment facilities constructed for reverse osmosis treatment with conditioning (water amendment) occuring prior to release. Spreadsheet sighted charting water quality monitoring at compliance point for Reedy Creek injection since December 2014.	Spreadsheet WTF Compliance Reports	is the CSG water treatment program ongoing and implemented in accordance with the WMMP?		Compliant
		Auditors sighted a letter from Klohn Crippen Berger to Australia Pacfici LNG stating that the pH of the Precipice Sandstone at Reedy Creek was approximately 8.16. Origin notified the Queensland regulator on 27 March 2013 that throughout injection the pH averaged approximately 9.3. Resulting investigations found "no statistically significant degradation of formation water quality" and that that "regardless of the injectate pH, the aquifer system successfully buffers the pH, equilibrating to near-aquifer conditions". However, as condition 53a requires water to be used for reinjection to be at least equal to the water quality of the receiving groundwater, this condition is considered not compliant.	Letter from Klohn Crippen Berger to Australia Pacfic LNG, subject Reedy Creek Aquifer Injection Traials Geochemisty:pH Adjustments, dated 22 February 2013. Aquifer Injection Trial at Reedy Creek – Precipice Sandstone Technical Report Q-4255-15-RP-014, Revision 3, 20/01/2015 Aquifer Injection Trial at Reedy Creek – Hutton Sandstone Technical Report Q-4255-15-RP-037, Revision A, 19/08/2014 Aquifer Injection Trial at Reedy Creek – Gubberamunda Sandstone Technical Report Q-4255-15-RP-038, Revision 1, 21/01/2015 Aquifer Injection Trial at Condabri – Precipice Sandstone Technical Report Q-4500-75-TR-0001, Revision 0, 23/12/2015 Memorandum Lauren Helm (Origin) to Ryan Morris (Origin) Subject: Talinga Injection Scheme - Subsurface Preliminary Feasibility Assessment 2 August 2012 Notification from Origin to Department of Environment and Heritage Protection dated 27 March 2013	evidence that the water that has been used for re-injection or used for other groundwater repressurisation options is treated at least equal to the water quality of the receiving groundwater system or environment?	Aquifer Injection Trial at Reedy Creek – Gubberamunda Sandstone Technical Report Q-4255-15-RP-038, Revision 1, 21/01/2015 Aquifer Injection Trial at Reedy Creek – Hutton Sandstone Technical Report Q-4255-15-RP-037, Revision A, 19/08/2014 Aquifer Injection Trial at Condabri – Precipice Sandstone Technical Report Q-4500-75-TR-0001, Revision 0, 23/12/2015 Memorandum Lauren Helm (Origin) to Ryan Morris (Origin) Subject: Talinga Injection Scheme - Subsurface Preliminary Feasibility Assessment 2 August 2012	Not compliant
53b	the method, data and the evidentiary standards necessary to support a conclusion that an aquifer from which CSG water is being extracted is not hydraulically connected to other aquifers;			Methods, data and standards in WMMP to be implemented	Review hydraulic connectivity reports to verify methodology and standards listed in WMMP are used to support conclusions regarding connectivity.	
		Australia Pacific LNG have not presented a conclusion that aquifers are not hydraulically connected. Annual groundwater reports present discussions and assessments of aquifer interconnectivity: 2013 Section 7, 2014 Section 8, and 2015 Section 4.6.	2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	APLNG have implemented the above methods and obtained the necessary evidentiary standards to support a conclusion that an aquifer from which CSG water is being extracted is not hydraulically connected to other aquifers?		Not applicable
53c	a groundwater quality and quantity monitoring plan to monitor the aquifers underlying the project area using a statistically and hydrogeologically valid, best practice bore monitoring network across the project area, and at least;			Evidence of monitoring which includes a network of bores across the project area	Review GIS and/or site layout to identify location of monitoring bores	
		The implementation of the groundwater monitoring plan is documented in the annual groundwater reports. The annual reports include groundwater head data and groundwater quality data.	2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	the groundwater quality and quantity monitoring plan has been implemented in accordance with the WMMP?		Compliant
53c i)	the aquifers to be monitored and the rationale for selection;			Monitoring of aquifers as per CSG WMMP	Review monitoring reports to verify aquifers listed in WMMP are monitored	
		The aquifers and monitoring bores were selected as part of the groundwater monitoring plan, with a specific rationale identified against each bore. The aquifers identified in the monitoring plan align with the aquifers monitored in the annual reports.	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014 2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	The aquifers were selected taking into the account the selection criteria as outlined in the above plan?		Compliant
		The aquifers identified in the monitoring plan align with the aquifers monitored in the annual reports	2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	have the aquifers listed as requiring monitoring in the plan been monitored during the implementation phase?		Compliant
53c ii)	the number and locations of monitoring bores and their flow, pressure, head, and water quality characteristics;			Location of monitoring as per CSG WMMP	Review monitoring reports to verify number and location of bores listed in WMMP are monitored, and that flow, pressure, head and water quality characteristics are recorded	
		The aquifers identified in Appendix A of the monitoring plan align with the bores monitored in Appendix A of the 2015 annual report. Appendix A of the annual report also contains a status of bores.	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	are the number and location of monitoring bores listed in the WMMP in operation?		Compliant
		The annual groundwater assessments contain pressure, groundwater head data and water quality data. While flow is not presented for each bore, the observed direction of flow is summarised for each aquifer.	2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	are the flow, pressure, head and water quality characteristics monitored for each bore?		Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
53c iii)	the frequency of the monitoring and rationale for the frequency;			Frequency of monitoring as per CSG WMMP	Review monitoring reports to verify frequency of monitoring	
		The monitoring frequency presented in the annual groundwater reports reflects the frequency documented in Section 3.2.1 of the Groundwater Monitoring Plan	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014 2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	is the monitoring undertaken in accordance with the frequency specified in the WMMP?		Compliant
53c iv)	baseline data for each monitoring site for comparison of monitoring results over the life of the project;			Monitoring results compared to baseline data provided in WMMP	Review monitoring reports to verify results of monitoring are compared against baseline data.	
		Section 3.3.1 of the Groudwater Monitoring Plan states that "In accordance with the JIP, a baseline of water quality will be defined after the collection of seven (7) six-monthly water quality samples." As such, baseline data was not available at the time of preparing the plan. Data has been compared for each annual report based on a zero value set at the commencement of each monitoring year. Drilling of bores for the groundwater monitoring program commenced in 2010, and has continued to be successively rolled out. Routine sampling commenced with the installation of dedicated sampling pumps in 2014, however samples were collected prior to this. Annual reports for 2013, 2013-2014, 2014-2015 have been published on the APLNG website. Baseline groundwater data has yet to be published as an insufficient number of samples had been collected prior to the current reporting period (2015-2016). Baseline data for those groundwater bores for which seven samples have been collected will be available in the 2015-2016 Annual Groundwater Assessment. It is currently undergoing external 3rd party review, prior to release. For those bores that have not yet been sampled 7 times, baseline water quality data will be reported in the first annual groundwater assessment following achievement of this criterion.	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014 2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	evidence that monitoring results are compared to the baseline data for each monitoring site, and evidence that this has been completed through the life of the project		Compliant
53c v)	the approach to be taken to analyse the results including the methods to determine trends to indicate potential impacts;			Analysis of results undertaken as per methods described in plan	Review monitoring reports to verify analysis of results is in accordance with methods listed in WMMP.	
		The data analysis reported in the annual groundwater reports aligns with the methods outlined in Section 3.5 of the groundwater monitoring plan. This analysis has been used to identify trends in groundwater levels and water quality characteristics. Trends are documented throughout various sections (quality, level) of the annual groundwater reports.	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014 2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	The approach undertaken to analyse results is implemented and trends are determined that can be used to indicate environmental impacts?		Compliant
		The data analysis reported in the annual groundwater reports aligns with the methods outlined in Section 3.5 of the groundwater monitoring plan.	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014 2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	have results been analysed in accordance with the approach and methods specified in the WMMP?		Compliant
		The data analysis reported in the annual groundwater reports aligns with the methods outlined in Section 3.5 of the groundwater monitoring plan. This analysis has been used to identify trends in groundwater levels and water quality characteristics. Trends are documented throughout various sections (quality, level) of the annual groundwater reports.	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014 2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	Have the results of the analysis been used to determine trends to indicate potential impacts?		Compliant
53c vi)	groundwater drawdown threshold values and groundwater quality threshold values for each aquifer (based on regional groundwater modelling endorsed by the Minister) at which management actions (such as reporting or control line values for additional investigation, more intensive management action, make good, and cease operations) will be initiated to respond to escalating levels of risk, including increasing levels of drawdown, contamination of groundwater, or subsidence;			If nominated thresholds exceeded, management actions to be undertaken to be undertaken in accordance with CSG WMMP	Identification of exceedances and review management response in accordance with actions described in CSG WMMP.	
		Auditors sighted notification letter dated 10 June 2016 regarding exceedance of groundwater level drawdown triggers at three monitoring bores. Condabri-MB10-W: Auditors sighted assessment of hydrograph trend for this bore. A high level risk assessment was undertaken to determine that there is no increased risk to EPBC Springs because of CSG production. Strathblane-WB1-P: Auditors sighted assessment of hydrograph trend for this bore. Assessment concluded that this was due to measurement error and a reference water level may need to reviewed. The assessment concluded that there is no increased potential risk to EPBC Springs because of CSG production. RN13946: Auditors sighted assessment of hydrograph trend for this bore. The assessment concluded that the trigger reference is unsuitable and there is no increased potential risk to EPBC Springs because of CSG production.	Letter from Rob Ully (Origin) to Shane Gaddes (the Department) Subject Early Warning System Groundwater drawdown trigger exceedances, dated 10 June 2016.	The above drawdown threshold values and groundwater quality threshold values for each aquifer are adhered to for each aquifer? Any recorded values above these thresholds are recorded and management action is undertaken?		Compliant
		Groundwater drawdown and quality values are monitored at each aquifer and reported in the annual groundwater reports. Threshold values are monitored and exceedances reported as above.	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014 2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	evidence that groundwater drawdown and groundwater quality threshold values for each aquifer has been monitored		Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
		Auditors sighted notification letter dated 10 June 2016 regarding exceedance of groundwater level drawdown triggers at three monitoring bores. The response actions are in accordance with the WMMP. Condabri-MB10-W: Auditors sighted assessment of hydrograph trend for this bore. A high level risk assessment was undertaken to determine that there is no increased risk to EPBC Springs because of CSG production. Strathblane-WB1-P: Auditors sighted assessment of hydrograph trend for this bore. Assessment concluded that this was due to measurement error and a reference water level may need to be reviewed. The assessment concluded that there is no increased potential risk to EPBC Springs because of CSG production. RN13946: Auditors sighted assessment of hydrograph trend for this bore. The assessment concluded that the trigger reference is unsuitable and there is no increased potential risk to EPBC Springs because of CSG production.	Letter from Rob Ully (Origin) to Shane Gaddes (the Department) Subject Early Warning System Groundwater drawdown trigger exceedances, dated 10 June 2016.	when threshold values are reached, have the management actions to respond to the escalating levels or risk been implemented as per the WMMP?		Compliant
53c vii)	references to standards and relevant policies and guidelines;			Relevant standards, policies and guidelines listed in WMMP are implemented.	Review monitoring reports to verify accordance with standards, policies and guidelines listed in WMMP.	
		The annual reports state that monitoring is undertaken in accordance with specific guidelines and procedures: 2013 Section 5.1, 2014 Section 5.2, 2015 Section 5.3	2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	is groundwater monitoring and management undertaken in accordance with relevant standards, policies and guidelines?		Compliant
53c viii)	mechanisms to monitor, avoid, minimise, manage, and respond to risks; and			Monitoring, and risk management implemented in accordance with WMMP	Review groundwater monitoring reports, exceedances, and management responses, to verify monitoring of groundwater, drawdown limits, early warning mechanisms, and management responses are in accordance with WMMP.	
		Where groundwater-related risks have been identified following exceedance of trigger values, investigations have been undertaken. This process is in accordance with the exceedance response process documented in Section 8 of the Groundwater Monitoring Plan. No potential risks to EPBC springs have been identified at the time of the audit.	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014 2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015 Letter from Rob Ully (Origin) to Shane Gaddes (the Department) Subject Early Warning System Groundwater drawdown trigger exceedances, dated 10 June 2016.	have mechanisms to monitor, avoid, and manage risks been implemented in accordance with the WMMP?		Compliant
		Where groundwater-related risks have been identified following exceedance of trigger values, investigations have been undertaken. This process is in accordance with the exceedance response process documented in Section 8 of the Groundwater Monitoring Plan. No potential risks to EPBC springs have been identified at the time of the audit.	Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014 2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015 Letter from Rob Ully (Origin) to Shane Gaddes (the Department) Subject Early Warning System Groundwater drawdown trigger exceedances, dated 10 June 2016.	when risks have been identified have they been responded to in accordance with the procedures specified in the WMMP?		Compliant
53c ix)	performance measures, annual reporting to the Department, and publication of reports on the internet;			Annual report submitted to Department and published on internet	Evidence of submission of annual report to Department. Review website for publication of annual reports	
		Annual reporting to the Department, containing performance measures, were = Groundwater Assessment Report (2013, 2014, 2015) Annual Environmental Returns (2013, 2014, 2014, 2015) Evidence of submission to the Department for these documents were sighted only for the 2015 Groundwater Assessment.	Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-RP-1722, Revision 0, 20 March 2013 Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-RP-0633, Revision 0, 3 March 2014 Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-RP-0743, Revision 0, 2 February 2015 Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-AT-1135, Revision 1, 21 March 2016 2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015 Email to Shane Gaddes (the Department) from Andrew Moser (Origin), subject Annual Groundwater Assessment and potential catchup, 16 October 2015	evidence of performance measures and annual reporting to the Department		Undetermined
		Annual Environmental Returns sighted online for 2013, 2014, 2015, and 2016. Annual Groundwater Assessments sighted online for 2013, 2014 and 2015.	https://www.aplng.com.au/about-us/compliance/management-plans.html Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-RP-1722, Revision 0, 20 March 2013 Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-RP-0633, Revision 0, 3 March 2014 Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-RP-0743, Revision 0, 2 February 2015 Annual Environmental Return EPBC 2009/4974 Gas Fields Q-LNG01-15-AT-1135, Revision 1, 21 March 2016 2013 Groundwater Assessment Q-LNG01-15-TR-1801, Revision 0, 21/03/2013 2013-2014 Groundwater Assessment Report Q-LNG01-75-RP-0001, Revision 1, 30/07/2014 2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	evidence of publication of performance measures and annual reporting to the Department on the internet		Compliant
53c (Note 1)	Note 1: Threshold values will be identified in the plan and during the life of the approval and related conditions may be varied by the Minister on advice from an expert panel to reflect the best available data and scientific information.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	
53c (Note 2)	Note 2: For clarity, the monitoring required under this condition may be undertaken jointly with others.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	
Response actions						

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
53d	an exceedance response plan that includes:					
53d i)	mechanisms to avoid, minimise and manage risk of adverse impacts of the exceedance and response actions and timeframes that can be taken by the proponent if:					
		No non-compliances have been identified under the requirements of condition 53d. i).		These mechanisms are outlined in the plan? APLNG have adhered to and implemented these actions if required?		Compliant
53d i) I.	threshold values for surface water quality and water environmental values specified in the CSG WMMP are exceeded;			If nominated thresholds exceeded, management actions to be undertaken in accordance with CSG WMMP (note relevance to Condition 50g vi))	Identification of exceedances and review management response in accordance with actions described in CSG WMMP.	
		2015 REMP reports sighted with last discharge occurring December 2013. The 2014 Annual Report identified barium and zinc concentration above the WQO at receiving monitoring points, however concluded that these were unlikely to be related to the release of treated water due to the low concentrations of barium and zinc recorded at the release point. It is considered that no action was required.	Condamine River Talinga and Condabri-Central Annual Report 2014, NRA Environmental Consultants, Q-4100-15-RP-002, Revision 1, 17 March 2016 Monthly WTF Compliance Report spreadsheet	These threshold values are outlined in the plan? APLNG have adhered to and implemented these actions if required?		Not applicable
		2015 REMP reports sighted with last discharge occurring December 2013. The 2014 Annual Report identified barium and zinc concentration abover the WQO at receiving monitoring points, however concluded that these were unlikely to be related to the release of treated water due to the low concentrations of barium and zinc recorded at the release point. It is considered that no action was required.	Condamine River Talinga and Condabri-Central Annual Report 2014, NRA Environmental Consultants, Q-4100-15-RP-002, Revision 1, 17 March 2016 Monthly WTF Compliance Report spreadsheet	have mechanisms to avoid, minimise and manage risk adverse impacts been implemented when threshold values for surface water quality and water environmental values specified in the CSG WMMP have been exceeded?		Not applicable
		2015 REMP reports sighted with last discharge occurring December 2013. The 2014 Annual Report identified barium and zinc concentration abover the WQO at receiving monitoring points, however concluded that these were unlikely to be related to the release of treated water due to the low concentrations of barium and zinc recorded at the release point. It is considered that no action was required.	Condamine River Talinga and Condabri-Central Annual Report 2014, NRA Environmental Consultants, Q-4100-15-RP-002, Revision 1, 17 March 2016 Monthly WTF Compliance Report spreadsheet	in instances where threshold values for surface water quality and water environmental values specified in the CSG WMMP have been exceeded, have management responses been undertaken in accordance with the listed procedures?		Not applicable
53d i) II.	threshold values specified in the CSG WMMP for aquifer drawdown or groundwater contamination are exceeded;			If nominated thresholds exceeded, management actions to be undertaken to be undertaken in accordance with CSG WMMP (note relevance to condition 53c vi)	Identification of exceedances and review management response in accordance with actions described in CSG WMMP.	
		Auditors sighted notification letter dated 10 June 2016 regarding exceedance of groundwater level drawdown triggers at three monitoring bores. Response actions undertaken were in accordance with Section 8 of the Groundwater Monitoring Plan. Condabri-MB10-W: Auditors sighted assessment of hydrograph trend for this bore. A high level risk assessment was undertaken by Australia Pacific LNG which determined that there is no increased risk to EPBC Springs because of CSG production. Strathblane-WB1-P: Auditors sighted assessment of hydrograph trend for this bore. The assessment sighted concluded that this was due to measurement error and a reference water level may need to reviewed. The assessment concluded that there is no increased potential risk to EPBC Springs because of CSG production. RN13946: Auditors sighted assessment of hydrograph trend for this bore. The assessment sighted concluded that the trigger reference is unsuitable and there is no increased potential risk to EPBC Springs because of CSG production.	Letter from Rob Ully (Origin) to Shane Gaddes (the Department) Subject Early Warning System Groundwater drawdown trigger exceedances, dated 10 June 2016. Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014	There are processes and procedures in place if aquifer drawdown or groundwater contamination are exceeded? APLNG have adhered to and implemented these actions if required?		Compliant
		Auditors sighted notification letter dated 10 June 2016 regarding exceedance of groundwater level drawdown triggers at three monitoring bores. Response actions undertaken were in accordance with Section 8 of the Groundwater Monitoring Plan and no additional mechanisms are considered required to to avoid, minimise or manage adverse impacts.. Condabri-MB10-W: Auditors sighted assessment of hydrograph trend for this bore. A high level risk assessment was undertaken to determine that there is no increased risk to EPBC Springs because of CSG production. Strathblane-WB1-P: Auditors sighted assessment of hydrograph trend for this bore. Assessment concluded that this was due to measurement error and a reference water level may need to reviewed. The assessment concluded that there is no increased potential risk to EPBC Springs because of CSG production. RN13946: Auditors sighted assessment of hydrograph trend for this bore. The assessment concluded that the trigger reference is unsuitable and there is no increased potential risk to EPBC Springs because of CSG production.	Letter from Rob Ully (Origin) to Shane Gaddes (the Department) Subject Early Warning System Groundwater drawdown trigger exceedances, dated 10 June 2016. Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014	have mechanisms to avoid, minimise and manage risk adverse impacts been implemented when threshold values for aquifer drawdown or groundwater contamination specified in the CSG WMMP have been exceeded?		Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
		Auditors sighted notification letter dated 10 June 2016 regarding exceedance of groundwater level drawdown triggers at three monitoring bores. Response actions undertaken were in accordance with Section 8 of the Groundwater Monitoring Plan. Condabri-MB10-W: Auditors sighted assessment of hydrograph trend for this bore. A high level risk assessment was undertaken to determine that there is no increased risk to EPBC Springs because of CSG production. Strathblane-WB1-P: Auditors sighted assessment of hydrograph trend for this bore. Assessment concluded that this was due to measurement error and a reference water level may need to reviewed. The assessment concluded that there is no increased potential risk to EPBC Springs because of CSG production. RN13946: Auditors sighted assessment of hydrograph trend for this bore. The assessment concluded that the trigger reference is unsuitable and there is no increased potential risk to EPBC Springs because of CSG production.	Letter from Rob Ully (Origin) to Shane Gaddes (the Department) Subject Early Warning System Groundwater drawdown trigger exceedances, dated 10 June 2016. Groundwater Monitoring Plan, Q-LNG-01-10-MP-0005, Revision 5, 11 March 2014	in instances where threshold values for aquifer drawdown or groundwater contamination specified in the CSG WMMP have been exceeded, have management responses been undertaken in accordance with the listed procedures?		Compliant
53d i) III.	subsidence or surface deformation occurs which impacts on surface or groundwater hydrology;			If subsidence occurs, management actions to be undertaken in accordance with CSG WMMP	Identification of subsidence or surface deformations and review management response in accordance with actions described in CSG WMMP.	
		The 2015 Annual Groundwater Report (Section 9.5) identified some inconsistencies with the collection of subsidence data. While these inconsistencies were insufficient to trigger a formal response mechanism, Australia Pacific LNG proposed to undertake an assessment of potential mechanisms. The outcome of this assessment was not sighted by the auditors.	2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	There are processes and procedures in place if subsidence or surface deformation occurs which impacts on surface or groundwater hydrology? APLNG have adhered to and implemented these actions if required?		Not applicable
		The 2015 Annual Groundwater Report (Section 9.5) identified some inconsistencies with the collection of subsidence data. While these inconsistencies were insufficient to trigger a formal response mechanism, Australia Pacific LNG proposed to undertake an assessment of potential mechanisms. The outcome of this assessment was not sighted by the auditors.	2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	have mechanisms to avoid, minimise and manage risk adverse impacts been implemented in accordance with the WMMP when subsidence or surface deformation occurs which impacts on surface or groundwater hydrology?		Not applicable
		The 2015 Annual Groundwater Report (Section 9.5) identified some inconsistencies with the collection of subsidence data. While these inconsistencies were insufficient to trigger a formal response mechanism, Australia Pacific LNG proposed to undertake an assessment of potential mechanisms. The outcome of this assessment was not sighted by the auditors.	2014-2015 Groundwater Assessment Report Q-1000-75-RP-001, Revision 0, 14/08/2015	in instances where subsidence or surface deformation occurs which impacts on surface or groundwater hydrology, have management responses been undertaken in accordance with the listed procedures?		Not applicable
53d i) IV.	there are any unforeseen emergency discharges; and			If emergency discharges identified under Condition 50g xi), management actions to be undertaken in accordance with CSG WMMP	Review records of emergency water discharges - if required, review management actions	
		No discharges have occurred from the Talinga/Condabri WTF to surface watercourses since December 2013. No emergency water discharges have been undertaken.1.01ML released for the purposes of commissioning the Condabri Central WTF in May 2015, however this is not considered an emergency release.		There are processes and procedures in place if there any unforeseen emergency discharges? APLNG have adhered to and implemented these actions if required?		Not applicable
		No discharges have occurred from the Talinga/Condabri WTF to surface watercourses since December 2013. No emergency water discharges have been undertaken.1.01ML released for the purposes of commissioning the Condabri Central WTF in May 2015, however this is not considered an emergency release.		have mechanisms to avoid, minimise and manage risk adverse impacts been implemented in accordance with the WMMP when unforeseen emergency discharges have occurred?		Not applicable
		No discharges have occurred from the Talinga/Condabri WTF to surface watercourses since December 2013. No emergency water discharges have been undertaken.1.01ML released for the purposes of commissioning the Condabri Central WTF in May 2015, however this is not considered an emergency release.		in instances where unforeseen emergency discharges have occurred, have management responses been undertaken in accordance with the listed procedures?		Not applicable

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
53d ii)	a program and timetable for repressurisation using re-injection of CSG water from hydraulically connected aquifers back into appropriate permeable aquifers and for other groundwater repressurisation options to re-establish pressure levels and water qualities to the satisfaction of the Minister on the advice of an expert panel, in conjunction with appropriate measures to forecast and proactively manage any short-term impacts.			Repressurisation to be undertaken in accordance with program and timetable in WMMP.	Review records of reinjection and repressurisation to identify whether program and schedule is in accordance with WMMP.	
		The program for repressurisation, including the aquifer reinjection trial process and data collection described in the Aquifer Injection Feasibility Studies (Appendix B to the Stage 1 WMMP), is reflected in the Injection Trial Reports sighted by the auditors, including field and laboratory tests for pressure and quality.	Aquifer Injection Trial at Reedy Creek – Gubberamunda Sandstone Technical Report Q-4255-15-RP-038, Revision 1, 21/01/2015 Aquifer Injection Trial at Reedy Creek – Hutton Sandstone Technical Report Q-4255-15-RP-037, Revision A, 19/08/2014 Aquifer Injection Trial at Reedy Creek – Precipice Sandstone Technical Report Q-4255-15-RP-014, Revision 3, 20/01/2015 Aquifer Injection Trial at Condabri – Precipice Sandstone Technical Report Q-4500-75-TR-0001, Revision 0, 23/12/2015 Memorandum Lauren Helm (Origin) to Ryan Morris (Origin) Subject: Talinga Injection Scheme - Subsurface Preliminary Feasibility Assessment 2 August 2012	There is a program in place that includes processes and procedures and a timetable for repressurisation using re-injection of CSG water from hydraulically connected aquifers back into appropriate permeable aquifers and for other groundwater repressurisation options to re-establish pressure levels and water qualities to the satisfaction of the Minister;		Compliant
		Condabri - scheduled to commence Q2 2013 (Revision 1) then Q2/Q3 2014 (Revision 3). Precipice Sandstone commenced 28 October 2014. Talinga - scheduled to commence Q1 2013 - no documentation provided Reedy Creek - scheduled to commence December 2012. Gubberamunda commenced 24 March 2013, Hutton 28 March 2013, and Precipice 27 March 2013. As no trials were commenced prior to the scheduled date, this is considered compliant with the condition.	Aquifer Injection Trial at Reedy Creek – Gubberamunda Sandstone Technical Report Q-4255-15-RP-038, Revision 1, 21/01/2015 Aquifer Injection Trial at Reedy Creek – Hutton Sandstone Technical Report Q-4255-15-RP-037, Revision A, 19/08/2014 Aquifer Injection Trial at Reedy Creek – Precipice Sandstone Technical Report Q-4255-15-RP-014, Revision 3, 20/01/2015 Aquifer Injection Trial at Condabri – Precipice Sandstone Technical Report Q-4500-75-TR-0001, Revision 0, 23/12/2015 Memorandum Lauren Helm (Origin) to Ryan Morris (Origin) Subject: Talinga Injection Scheme - Subsurface Preliminary Feasibility Assessment 2 August 2012	the program and timetable for repressurisation using re-injection of CSG water was implemented as per the WMMP		Compliant
		As documented in the WMMP, a risk assessment is undertaken prior to commencing reinjection to identify and manage short term impacts	Talinga Aquifer Injection Trial Management Plan, Q-4100-10-MP-0001, Revision 2, 20 January 2012.	the measures used to forecast and proactively manage short term impacts was implemented in accordance with the WMMP		Compliant
53d (Note)	Note: The design of these groundwater repressurisation activities should be informed by a regional-scale groundwater model.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	
Implementation of Stage 1 and Stage 2 CSG WMMP						
54	The proponent must implement the approved Stage 2 CSG WMMP, no later than 31 March 2014.			Implementation of each requirement of WMMP, as listed under Condition 50 and 53.	Assessment of implementation of the requirements of the plan identified under Condition 50 and 53. Details of verification provided against Condition 50 a), b), c) etc. and Condition 53 a), b), c) etc.	
		This audit assessed the implementation of the Stage 2 CSG WMMP against the individual requirements of Condition 53. Non-compliances have been identified against these requirements and documented under those subconditions in this compliance evaluation table. By virtue of these non-compliances, condition 54 is also considered to be non-compliant, however the non-compliance of condition 54 does not represent any additional non-compliance by Australia Pacific LNG.		APLNG have fulfilled and implemented all elements of the Stage 2 CSG WMMP (as specified above no later that than 31 March 2014?		Not compliant
55	Three months before commencement of each subsequent major stage of the proponent's gas field development the proponent must submit a revised Stage 2 CSG WMMP for approval of the Minister, who may seek the advice of an expert panel.			Submission of revised Stage 2 CSG WMMP to Minister 3 months before commencing subsequent major stages	Identification of current project stage and, if required, evidence of submission of revised Stage 2 CSG WMMP	
		The Stage 1 and Stage 2 WMMP address Phase 1 of the Project (activities proposed to be undertaken in the first five years of project implementation). Auditors advised the subsequent phase is not within three months of commencing. Section 2 of the Stage 2 WMMP states that the plan "will be updated on a three yearly cycle. This cycle aligns with the tri-annual revision of the state's Underground Water Impact Report for the Surat Cumulative Management Area. The updated plan will be provided to the Department of the Environment within six months of the public release of the UWIR." The consultation draft of the Underground Water Impact Report for the Surat Cumulative Management Area was released March 2016.	Stage 2 CSG Water Monitoring and Management Plan, Q-LNG01-15-MP-2105, Revision 2, 11/03/2014 Underground Water Impact Report for the Surat Cumulative Management Area, Consultation Draft, March 2016	3 months prior to commencement of each subsequent stage, the revised Stage 2 CSG WMMP was submitted for approval of the Minister,		Not applicable
56	The Coal Seam Gas Water Monitoring and Management Plan should be based on the proponent's planned staged development within the project area over the total life of the project consistent with approvals granted by the Queensland Government.			Timing of project stages to be in accordance with documented planned stages	Review WMMP planned stage development against current and previous stages to verify timing, and identify timing of future project stages.	
		The Stage 1 (Section 1.1) and Stage 2 (Section 2) CSG WMMPs state the planned staged development within the project area. The basis of this plan is the tenements documented in the EIS, for which the Queensland Government granted approval.	Stage 1 CSG Water Monitoring and Management Plan, Q-LNG01-95-MP-0147, Revision 3, 5 December 2012 Stage 2 CSG Water Monitoring and Management Plan, Q-LNG01-15-MP-2105, Revision 2, 11/03/2014	The WMMP is based on staged development and is consistent with the approvals granted by the Queensland Government?		Compliant
		The Stage 1 (Section 1.1) and Stage 2 (Section 2) CSG WMMPs state the planned staged development within the project area. The staging provided in the Stage 2 CSG WMMP is based on Field Development Plan 5 Revision C, which was sighted by the auditors and shows works will commence later than scheduled in the EIS.	Stage 1 CSG Water Monitoring and Management Plan, Q-LNG01-95-MP-0147, Revision 3, 5 December 2012 Stage 2 CSG Water Monitoring and Management Plan, Q-LNG01-15-MP-2105, Revision 2, 11/03/2014 Confidential Q-LNG01-75-TR-0006	evidence that the WMMP has been implemented in accordance with the relevant stages of the development, and approvals granted by the Queensland Government		Compliant

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
57	The proponent may only extract sufficient CSG water as is required to undertake the approved activities.			Volumes of CSG water extracted not to exceed that required to undertake the approved activities	Review Stage 1 and Stage 2 CSG WMMP to identify volumes and verification against actual extraction figures.	
		It is noted that the water present within the coal seams is generally referred to as 'associated water' as it is normally extracted with the gas stream. To produce gas from a coal seam, normally the water associated with the gas in the reservoir must first be withdrawn using artificial pump to reduce the pressure within the coal seam and liberates the adsorbed gas from the coal. Once sufficient water has been removed, or the well has been 'dewatered', the gas will begin to release from the coal seams (Section 3.1.2, Volume 2, Environmental Impact Statement).	Stage 2 CSG Water Monitoring and Management Plan, Q-LNG01-15-MP-2105, Revision 2, 11/03/2014	APLNG has processes and procedures in place to ensure that only the sufficient water is extracted in order to undertake the specified activities?		Compliant
		Auditors reviewed confidential documentation which shows actual water extraction is in line, or below, forecasted.		evidence that analysis has been undertaken to determine the amount of CSG water required to undertake the approved activities, and that only this amount of water has been extracted		Compliant
57 (Note)	Note: The purpose of this condition is to ensure that water is only extracted to the extent necessary for the extraction of coal seam gas.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	
58	The Stage 1 and Stage 2 CSG WMMP, as approved by the Minister in writing acting on advice of an expert panel, and in accordance with the timing requirements under these conditions, must be implemented			Implementation assessed under Conditions 50, 51, 53 and 54	Review compliance findings against conditions 50, 51, 53 and 54.	
		This audit assessed the implementation of the Stage 1 and Stage 2 CSG WMMP against the individual requirements of Condition 50 and 53. Non-compliances have been identified against these requirements and documented under those subconditions in this compliance evaluation table. By virtue of these non-compliances, condition 58 is also considered to be non-compliant, however the non-compliance of condition 58 does not represent any additional non-compliance by Australia Pacific LNG.		Have APLNG have adhered to and implemented all processes and procedures for each element and requirement of the Stage 1 and Stage 2 CSG WMMP, as approved by the Minister?		Not compliant
58 (Note)	Note: The proponent may incorporate requirements into plans that meet both Queensland and Commonwealth requirements.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	
Revisions of Stage 1 and Stage 2 CSG WMMP						
59	Consistent with an adaptive management approach the Stage 2 CSG WMMP must be reviewed and updated for each new stage of gas field development: to take into account of major updates to the Regional Groundwater Model; and to address findings of Cumulative Impact Assessment Reports required by the Queensland Government and these conditions of approval			Review and revision of CSG WMMP before commencing subsequent major stages (Note requirement to submit to Minister three months prior as per condition 55)	Identification of current project stage and, if required, development of revised CSG WMMP	
		The Stage 1 and Stage 2 WMMP address Phase 1 of the Project (activities proposed to be undertaken in the first five years of project implementation). Auditors advised the subsequent phase is not within three months of commencing. The Stage 2 WMMP applies to the development until 30 April 2016, and has been staged to align with the tri-annual revision of the state's Underground Water Impact Report for the Surat Cumulative Management Area, with an additional 6 months allowance to confer with Federal regulatory agencies (Section 2 of the Stage 2 WMMP). The Department approval of the Stage 2 CSG WMMP acknowledges that the three yearly update cycle is "designed to enable the update to incorporate the groundwater modelling results of the Underground Water Impact Report."	Stage 2 CSG Water Monitoring and Management Plan, Q-LNG01-15-MP-2105, Revision 2, 11/03/2014	Where required, have APLNG updated and reviewed the WMMP for each stage of gas field development?		Not applicable
60	A reviewed and updated Stage 2 CSG WMMP must be submitted to the Minister for written approval. Commencement of each new stage of gas field development must not occur without approval. The proponent may undertake activities that are critical to commencement that are associated with mobilisation of plant and equipment, materials, machinery and personnel prior to the start of development only if such activities will have no adverse impact on MNES, and only if the proponent has notified the Department in writing before the activity is undertaken. The approved CSG WMMP must be implemented for the relevant gas field area.			Submission of revised Stage 2 CSG WMMP to Minister 3 months before commencing subsequent major stages (Note requirement to submit to Minister three months prior as per condition 55) - implementation audited separately	Identification of current project stage and evidence of submission and approval of revised Stage 2 CSG WMMP.	
		The Stage 1 and Stage 2 WMMP address Phase 1 of the Project (activities proposed to be undertaken in the first five years of project implementation). Auditors advised the subsequent phase is not within three months of commencing. No requirement for the plan to be reviewed and updated has been triggered. The Stage 2 WMMP applies to the development until 30 April 2016. A reviewed and updated Stage 2 CSG WMMP has not been required to be submitted to the Minister.	Stage 2 CSG Water Monitoring and Management Plan, Q-LNG01-15-MP-2105, Revision 2, 11/03/2014	Where required, the updated WMMP has been submitted to the Minister and no work commenced prior to the Minister's approval?		Not applicable
		The Stage 1 and Stage 2 WMMP address Phase 1 of the Project (activities proposed to be undertaken in the first five years of project implementation). Auditors advised the subsequent phase is not within three months of commencing. No requirement for the plan to be reviewed and updated has been triggered. The Stage 2 WMMP applies to the development until 30 April 2016. A reviewed and updated Stage 2 CSG WMMP has not been required to be submitted to the Minister.	Stage 2 CSG Water Monitoring and Management Plan, Q-LNG01-15-MP-2105, Revision 2, 11/03/2014	Any activities that have been undertaken in preparation for the commencement of the action have had no adverse impacts on MNES?		Not applicable
		This audit assessed the implementation of the Stage 2 CSG WMMP against the individual requirements of Condition 53. Non-compliances have been identified against these requirements and documented under those subconditions in this compliance evaluation table. By virtue of these non-compliances, condition 60 is also considered to be non-compliant, however the non-compliance of condition 60 does not represent any additional non-compliance by Australia Pacific LNG.		APLNG have adhered to and implemented all processes and procedures for each element and requirements of the Stage 2 CSG WMMP, as approved by the Minister?		Not compliant
61	The Minister may, through a request in writing, require that the Stage 1 or Stage 2 CSG WMMP be revised or amended, which may include requirements for amendments to address independent expert advice. Any such request must be acted on within the timeframe specified.			Requests by Minister to amend CSG WMMP incorporated within specified timeframe.	Identification of requests by Minister to amend CSG WMMP, and evidence amendments made within specified timeframe	

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
		A request to amend Revision 2 of the Stage 1 CSG WMMP based on Expert Panel comments was made by the Minister on 25 October 2012, and clarified on 30 October 2012. No timeframe was specified in the request. Revision 3 of the Stage 1 CSG WMMP was submitted 6 December 2012.	Email from Dieter Kluger (the Department) to Ryan Morris and Andrew Moser (Origin), 25 October 2012 Email from Dieter Kluger (the Department) to Ryan Morris and Andrew Moser (Origin), 30 October 2012 Letter from Rob Ully (Origin) to Dieter Kluger (the Department), Q-LNG01-15-AT-0421, 6 December 2012	If required, APLNG amended the WMMP in accordance with the Minister's requirements within the specified timeframes?		Compliant
61 (Note)	Note: The Minister may throughout the project life seek advice from experts, or an expert panel. As a consequence specific matters identified through such advice may need to be addressed in the Plan. Where such advice is sought the proponent would be provided with opportunity to submit Information and respond to the specific matters identified, in order to ensure the Plan is based on the best available information. Review requirements will facilitate adaptive management, alignment with Queensland Government approval requirements, and account for potential cumulative impacts as new scientific information becomes available over the life of the project.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	
Notification of threshold breaches and response actions						
74	Within 10 business days of the proponent identifying monitoring outcomes that indicate a risk of reduction in groundwater pressure or water quality. The proponent must notify the Minister in writing of the trend and the proponent's response action.			Notification of risk in reduction in groundwater quality or pressure to the Minister (refer condition 53d i) II)	Identification of risk, evidence of notification within 10 business days	
		Auditors sighted notification to Department on 10 June 2016 of groundwater trigger exceedances, including planned actions. Through a review of hydrograph trends, Australia Pacific LNG determined that these exceedances did not increase potential risk to EPBC Spring because of CSG production. The timeframe specified in this condition is considered not applicable.	Letter from Rob Ully (Origin) to Shane Gaddes (the Department) Subject Early Warning System Groundwater drawdown trigger exceedances, dated 10 June 2016.	If required, was the Minister notified if monitoring outcomes indicated a risk of reduction in groundwater pressure or water quality within the required timeframe?		Not applicable
75	Within 10 days of identifying a surface or groundwater threshold value (for example, discharge water quality, environmental value, pressure, head, volume, or flow) being exceeded, the proponent must advise the Minister in writing of the circumstances, the threshold exceeded, the immediate action taken by the proponent, and proposed action to remedy the breach and avoid a subsequent breach.			Notification of exceedance of a surface or groundwater threshold value to the Minister (refer conditions 50h i), 53d i)I, 53d i)II)	Identification of exceedance, evidence of notification within 10 days	
		Auditors sighted notification to Department on 10 June 2016 of groundwater trigger exceedances, including planned actions. Through a review of hydrograph trends, Australia Pacific LNG determined that these exceedances did not increase potential risk to EPBC Spring because of CSG production. The 2014 Annual Report identified barium and zinc concentration above the WQO at receiving monitoring points, however concluded that these were unlikely to be related to the release of treated water due to the low concentrations of barium and zinc recorded at the release point. It is considered that no action was required for either groundwater or surface water exccedances	Letter from Rob Ully (Origin) to Shane Gaddes (the Department) Subject Early Warning System Groundwater drawdown trigger exceedances, dated 10 June 2016. Receiving Environment Monitoring Program: Condamine River Talinga and Condabri-Central Annual Report 2014, NRA Environmental Consultants, Q-4100-15-RP-002, Revision 1, 17 March 2016 Monthly WTF Compliance Report spreadsheet	in instances where the surface groundwater threshold value was exceeded, was the Minister notified within the 10 days of the circumstances, the threshold exceeded and immediate action to be undertaken to remedy the breach and avoid subsequent breaches?		Not applicable
76	Immediate action may include a range of measures including but not limited to further monitoring and investigation, the ceasing of water/gas extraction and/or water discharge or use in the area affected or such other measures as are appropriate, until investigations can be completed to determine the cause and remedial action. The proponent's proposed response action must be notified to the Minister in writing			Immediate action to be undertaken, and Minister to be notified.	Evidence of notification (no timeframe specified)	
		It is not considered that the groundwater trigger exceedances or surface water trigger required activities to cease. Notification to the Department was sighted relating to the groundwater exceedances, including the proposed response action. The 2014 Annual Report identified barium and zinc concentration above the WQO at receiving monitoring points, however concluded that these were unlikely to be related to the release of treated water due to the low concentrations of barium and zinc recorded at the release point. It is considered that no action was required for either groundwater or surface water exccedances	Letter from Rob Ully (Origin) to Shane Gaddes (the Department) Subject Early Warning System Groundwater drawdown trigger exceedances, dated 10 June 2016. Condamine River Talinga and Condabri-Central Annual Report 2014, NRA Environmental Consultants, Q-4100-15-RP-002, Revision 1, 17 March 2016 Monthly WTF Compliance Report spreadsheet	If required, APLNG has undertaken further monitoring and investigation. In the meantime, were all operations ceased until the matter was fully investigated and the Minister was notified in writing of the proponents response action?		Not applicable
		It is not considered that the groundwater trigger exceedances or surface water trigger required activities to cease. Notification to the Department was sighted relating to the groundwater exceedances, including the proposed response action. The 2014 Annual Report identified barium and zinc concentration above the WQO at receiving monitoring points, however concluded that these were unlikely to be related to the release of treated water due to the low concentrations of barium and zinc recorded at the release point. It is considered that no action was required for either groundwater or surface water exccedances	Letter from Rob Ully (Origin) to Shane Gaddes (the Department) Subject Early Warning System Groundwater drawdown trigger exceedances, dated 10 June 2016. Condamine River Talinga and Condabri-Central Annual Report 2014, NRA Environmental Consultants, Q-4100-15-RP-002, Revision 1, 17 March 2016 Monthly WTF Compliance Report spreadsheet	in instances of threshold breaches has immediate action been implemented, until investigations were completed and cause and remedial actions identified and implemented?		Not applicable

Criterion	Criterion Description	Independent auditor comments	Measurements made (evidence)	Requirement	Verification Method	Compliance Finding
		Auditors sighted notification to Department on 10 June 2016 of groundwater trigger exceedances, including planned actions. Through a review of hydrograph trends, Australia Pacific LNG determined that these exceedances did not increase potential risk to EPBC Spring because of CSG production. The 2014 Annual Report identified barium and zinc concentration abover the WQO at receiving monitoring points, however concluded that these were unlikely to be related to the release of treated water due to the low concentrations of barium and zinc recorded at the release point. It is considered that no action was required for either groundwater or surface water exccedances	Letter from Rob Ully (Origin) to Shane Gaddes (the Department) Subject Early Warning System Groundwater drawdown trigger exceedances, dated 10 June 2016. Condamine River Talinga and Condabri-Central Annual Report 2014, NRA Environmental Consultants, Q-4100-15-RP-002, Revision 1, 17 March 2016 Monthly WTF Compliance Report spreadsheet	in instances where threshold breaches occurred, and response identified was the action notified to the Minister in writing?		Not applicable
Notifications and requirements about construction, operation, brine management and environmental management plans						
78	The proponent must notify the Department in writing when developing or revising construction, operational, groundwater, CSG water, brine management, salinity management, environmental management, or other plans where the scope of the plans relates to potential significant direct, indirect or cumulative adverse impacts on MNES, or involves management of MNES. The proponent must in the notification indicate the relevant components of such plans relating to MNES and their management, and the timeframe for development and approval of the plans under Queensland Government requirements.			Notification to the Department where scope of developed plans related to impacts of MNES	Sample plans which relate to a potential significant impact on MNES. Review of notifications to confirm inclusion of components of plans relating to MNES, the management measures, timeframes and state approval.	
		The following plans have been developed by Australia Pacific LNG and approved by the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) (now Department of the Environment): -Threatened Fauna Management Plan -Threatened Flora Management Plan -Threatened Ecological Community Management Plan	Threatened Fauna Management Plan Q-LNG01-15-MP-0113 Revision 2 7 May 2013 (Revision 0 29 March 2012) Threatened Flora Management Plan Q-LNG01-15-MP-0108 Revision 0 29 March 2012 Threatened Ecological Community Management Plan Gas Fields Q-LNG01-15-MP-0114 Revision 0 29 March 2012 Letter from James Barker (SEWPaC) to Katherine Jack (Australia Pacific LNG) dated 1 September 2011. Australia Pacific LNG reference Q-LNG01-15-EA-0061	The Department was notified in writing when developing or revising construction, operational, groundwater, CSG water, brine management, salinity management, environmental management, or other plans where the scope of the plans relates to potential significant direct, indirect or cumulative adverse impacts on MNES, or involves management of MNES?		Compliant
		The following plans have been developed by Australia Pacific LNG and approved by the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) (now Department of the Environment): -Threatened Fauna Management Plan -Threatened Flora Management Plan -Threatened Ecological Community Management Plan	Threatened Fauna Management Plan Q-LNG01-15-MP-0113 Revision 2 7 May 2013 (Revision 0 29 March 2012) Threatened Flora Management Plan Q-LNG01-15-MP-0108 Revision 0 29 March 2012 Threatened Ecological Community Management Plan Gas Fields Q-LNG01-15-MP-0114 Revision 0 29 March 2012 Letter from James Barker (SEWPaC) to Katherine Jack (Australia Pacific LNG) dated 1 September 2011. Australia Pacific LNG reference Q-LNG01-15-EA-0061	did the notifications indicate the relevant components of such plans relating to MNES and their management, and the timeframe for development and approval of the plans under Queensland Government requirements?		Compliant
79	Where the scope of the plans relates to potential significant adverse impact on MNES, or involves management of MNES the plans must be submitted to the Minister for approval of those components. Approved components of plans must be implemented.			Where notification undertaken as per Condition 78, submit plans to Minister for approval - implementation audited separately	Evidence of submission of plans identified under Condition 78 to Minister. Identify relevant components of plans, and verify implementation of these components.	
		The following plans have been developed by Australia Pacific LNG and approved by the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) (now Department of the Environment): -Threatened Fauna Management Plan -Threatened Flora Management Plan -Threatened Ecological Community Management Plan	Threatened Fauna Management Plan Q-LNG01-15-MP-0113 Revision 2 7 May 2013 (Revision 0 29 March 2012) Threatened Flora Management Plan Q-LNG01-15-MP-0108 Revision 0 29 March 2012 Threatened Ecological Community Management Plan Gas Fields Q-LNG01-15-MP-0114 Revision 0 29 March 2012 Letter from James Barker (SEWPaC) to Katherine Jack (Australia Pacific LNG) dated 1 September 2011. Australia Pacific LNG reference Q-LNG01-15-EA-0061	Any plans that have potential significant adverse impact on MNES, or involves management of MNES the plans have been submitted to the Minister for the approval of those components?		Compliant
		Auditors identified numerous plans submitted to the Minister under this condition. An audit of implementation of Australia Pacific LNG's Threatened Species Management Plans has previously been undertaken and submitted to the Department.	Environment Protection and Biodiversity Conservation Approval Audit, Revision 1, 10 July 2015, prepared by URS Australia Pty Ltd	APLNG have adhered to and implemented all processes and procedures for each element and requirement of any plan subject to criterion 79, as approved by the Minister?		Undetermined
79 (Note)	Note: Where efficiency will be enhanced the proponent may also prepare and align management plans required under these conditions with the requirements of the Queensland Government as long as the relevant matters under the conditions of this approval are clearly and adequately addressed.			Note this is not mandatory and is for information only.	This is not a requirement, hence it will not be audited in terms of compliance and non-compliance.	

Appendix D

Auditor's curriculum vitae

Robert Storrs
Technical Director

Qualifications
Bachelor of Environmental Science (Land Resources) Honours: First Class University of Wollongong, NSW, Australia, 1995

Affiliations
Member of the Queensland Regional Management Team – URS

Queensland committee for economic development of Australia (CEDA) trustee

Member of the Environment Institute of Australia and New Zealand (EIANZ)

Consult Australia Queensland Environment Committee member

Awards
URS Asia Pacific Pyramid Awards for Project Management and Business Development in 2011

Prize for Academic Achievement in Science, 1993, Weerona College

Duke of Edinburgh Award (Bronze, Silver, Gold)

Career History
Rob Storrs is a Technical Director Environmental Scientist with over 20 years' experience in managing and investigating environmental issues and project managing environmental approvals processes. He has worked with the mining, oil and gas and chemical industries across Asia Pacific and the UK for the past twelve years. Rob has extensive experience managing projects through the EIA process, having lead over 6 EIAs in the last 6 years, including the award-winning Alpha Coal Mine EIA. Rob is a qualified RABQSA Environmental Auditor and has highly developed project management and auditing skills.

Detailed Experience

AECOM (URS Australia)

Environmental Impact Assessment / Approvals Project Manager, Senex Western Surat Gas Project EIS, 2015– ongoing
Rob is the Project Manager for the preparation of an EIS for the development of up to 1,000 coal seam gas wells over approximately 1,000 km^2, gathering lines and treatment facilities. In this role Rob is responsible for the overall EIS delivery and meeting the client and regulator expectations.

Project Manager, Santos GLNG Gas Field Development Project EIS, 2013–2015
Rob was the Project Manager for the preparation of a state significant EIS for the expansion of the Santos GLNG gas field to increase the number of coal seam gas wells (6,100 over greater than 10,000 km2), gathering lines and treatment facilities. The EIS was successfully submitted on time and budget and received the least comments to the Coordinator General from any CSG project to date resulting in not supplementary report being required.

Project Director, LNG Project Compliance Audit (Pipeline, Gas Field and Plant), Australia Pacific LNG, 2012
Rob as a certified environmental auditor was the Project Director for the Australia Pacific LNG environmental authority compliance audits. These audits covered the entire project (pipeline, gas field and plant) and addressed the state and federal approval conditions. The audit reports received favourable feedback from both the regulator and APLNG and assisted APLNG to update their compliance program for future audits.

Auditor, Xstrata Copper Sustainability Auditing, 2009
As part of their corporate sustainable development procedures, Xstrata developed a Sustainable Development Charter, which is routinely audited at selected sites. Xstrata Copper Mount Isa is a large mine and smelting operation in central Queensland and Rob was one of five auditors who were based on-site for a week undertaking the assessment. The audit required the rapid assimilation of new and varied information and delivery of findings at the end of the audit period.

Phase I Auditor, Various Petroleum Sites, Australia and the Pacific Islands, 2002 - 2009
In his time at URS, Rob has undertaken a large number of phase I investigations at petroleum sites, including sites throughout Queensland, New Caledonia and Western Samoa. He has managed the vast majority of these projects.

Project Director, Environmental Approvals - Micro LNG Facility, Condamine Region, BOC, 2010 - 2014
Rob was the Project Director for the environmental approvals process for a micro LNG facility to be located in the Condamine Region. The project included the development of an EM Plan, EA conditions and financial assurance information to support a Petroleum Licence application.

Other Projects:

- Assisted in review and summary of Environmental Management Plans and legal requirements for a Greenfield gold mine in NSW, Australia (2004).
- Development of Environmental Management Plans (EMPs) for EMS implementation at central Queensland Coal Mine sites.
- Soil and rehabilitation component of the Alcan Gove (Northern Territory Aluminum Refinery) expansion EIS.

Auditing

Other Projects:

- QNI Ore Supplier Environmental Review, New Caledonia, Nickel Mines.
- Pisces Coal Project EIS review (Central Queensland).
- Corporate sustainability report verification of mining, smelting and construction sites in Australia and South Africa.
- Project Manager of numerous Shell Engineering and Exxon Mobil phase 1 and phase 2 contaminated site investigations and validation assessments within Australia and the Pacific Islands (Samoa, New Caledonia and PNG).
- Engaged in the development of an ISO14001 certified EMS for multiple sites for an international mining company and a national meat producer.
- Project Manager and field auditor for an Australia wide abattoir environmental benchmarking project. This included ten sites covering five states.
- Capping and contamination assessment of the historical Toowoomba landfill, Queensland, Australia.

David Curwen
Principal Environmental Scientist

Qualifications
MSc - Environment, Health and Safety, 2004
BSc (Hons) Environmental Studies, 1995

Career History

Areas of Experience
- Environmental regulatory compliance
- Process and resource optimisation and auditing
- Due diligence
- Environmental risk assessment
- Environmental management systems

Career Summary
David leads AECOM's Queensland environmental audit services and manages a team of staff providing EIS project management and support services. David has been approved as an independent third party auditor by Queensland's Coordinator General and Department of Environment and Heritage Protection, the Commonwealth Department of the Environment and the New South Wales (NSW) Government (Planning and Infrastructure).

David also has extensive experience of safety managing large multidisciplinary teams to deliver complex project approvals. David has provided EIS management and technical support to resource EISs including New Lenton (New Hope), Ellensfield (Vale), Red Hill (BMA), Kevin's Corner (GVK Hancock) and the Bowen Gas Project (Arrow). David also has a broad range of permitting experience in the UK working for regulators and clients such as Exxon Mobil, BP, Iberdrola and Electricite de France (EDF).

Detailed Experience

Project Manager, Australia Pacific LNG compliance audits

David was project manager and main auditor for the Coordinator–General's (CG) compliance audit of the Australia Pacific LNG (coal seam gas) project including gas fields, pipelines and LNG facility. The project team was approved by the Queensland Government and assessed compliance against over 2,000 requirements under the CG report as well as the separate commonwealth and state approvals for each area of the development. The output was well received by the CG who gave positive feedback regarding the thoroughness, readability and presentation of the report.

Following this project David has managed and delivered a further five compliance audits for Origin Energy as an approved third party auditor including the recent DotE EPBC audit and has also audited Origin's biosecurity procedures.

Project Manager, New Lenton Coal Mine EIS (New Hope Group)

Project management of the New Lenton Coal Mine EIS including the development of baseline data, site based field work, impact assessment and the development of technical reports. David is managing a team of over 60 technical specialists, based predominantly in Brisbane to develop an EIS covering a proposed mine expansion into a mining lease application area which will allow a significant increase in projected mine output. The deliverables from the project will be a range of technical studies which will be used to inform impact assessment process and EIS production; an updated single environmental management plan (EM Plan) will be prepared which will allow for a single environmental authority (EA) for the two MLs (once the MLA is approved).

Power Station Environmental Support (Scottish Power/Iberdrola)

Seconded into the role of Environmental Performance Specialist to the Scottish Power Energy Wholesale Environment Group, this included a broad range of environmental support including:

- Resource minimisation auditing and staff training
- Corporate annual reporting (consistent with the Global Reporting Initiative); Impact assessment and emissions inventory calculation from power stations (coal, gas and hydro)
- Obtaining regulatory variations
- Plant trials (entrained fish recovery and release).

Red Hill Environmental Management Plan (BMA)

Development of the EM Plan for the exploration operations required for the BMA Red Hill coal mine expansion. Key aspects here were the protection of the EPBC vegetation and the protection of the surface water values in a document which is easy to use for operators in the field. This project required working with other consultants appointed by BMA which led to the development of a detailed but user friendly EM Plan template (GPS data for the EPBC vegetation was to be populated by BMA).

Kevin's Corner Environmental Management Plan (GVK Hancock)

Authoring, collation and review of the EM Plan for the 30 million tonnes per annum Hancock Kevin's Corner Coal Mine in the Galilee Basin. This was a large complex project with many different aspects (mining and wider logistics/infrastructure). The EM Plan was compiled following completion of the draft EIS and following an intensive technical and editorial review process.

ExxonMobil: Fife Ethylene Plant PPC Application

Entec was selected to provide full multidisciplinary Pollution Prevent Control (PPC) support to ExxonMobil at the Fife and Fawley sites; David was the Project Manager and main technical resource for the Fife Ethylene Plant site. The project required the generation and submission of a full PPC application for the site and on-going support until the permit was agreed. Additional specialist support was provided by contaminated land (also provided to the neighbouring Shell LNG site) and dispersion modelling specialists (dispersion modelling also incorporated the Shell LNG site). Key areas of the support included the Best Available Techniques (BAT) assessment of the existing process and abatement and the intrinsic relationship with the Shell site, which required regular discussion and agreement on issues such as Installation Boundary and process control (e.g. under accident scenarios). David developed a close working relationship with the site and continued to offer environmental support in a number of areas (BAT assessment, flaring issues, noise, odour, EU Emissions Trading Scheme (ETS) and groundwater monitoring).

Environment Officer, Sellafield Site (nuclear fuel reprocessing)

Prior to consultancy, David worked for British Nuclear Fuels at the Sellafield Site. Responsibilities included:

- Role of EMS Area Environmental Coordinator involved in training 2,000 on-site staff
- Responsible for compiling the annual reporting returns to the Environment Agency.
- Member of the Sellafield Emergency Response Team.
- Environmental Risk Assessor to the Plant Modification Process.
- Plant optimisation studies including scrubber operations, cooling tower operations,
- Managing the regulatory interface which involved negotiating permit conditions on behalf of BNFL.

Kate Every
Environmental Scientist

Qualifications
Masters of Environmental Management - Sustainable Development, University of Queensland, 2012
Bachelor of Science - Marine Science, University of Sydney, 2008

Affiliations
Environment Institute of Australia and New Zealand, Associate member

Career History

Areas of Experience
- Project management
- Environmental compliance auditing
- Environmental assessment and approvals
- Marine and aquatic ecology

Career Summary
Kate is an Environmental Scientist with five years of professional experience as a consultant. Since joining AECOM in 2011, Kate has been involved in a diverse range of projects including environmental impact assessment, due diligence and environmental compliance auditing, and assisting the client environmental approval process. Kate has been approved as a third party auditor for a number of Origin projects by state and Commonwealth regulators and has a strong understanding of Origin's reporting and approvals processes.

Kate is also involved in the ongoing delivery of a range of services related to the assessment of the marine receiving environment in Gladstone as part of a confidential CSG client's environmental approvals.

Kate is an Associate Member of the Environment Institute of Australia and New Zealand (MEIANZ).

Detailed Experience

Compliance Auditing/Due Diligence

Environmental Auditor, Environmental Authority Audits, Australia Pacific LNG, Combabula Development Area and Narrows Pipeline, Queensland

AECOM was commissioned to undertake independent third party audits of the Australia Pacific LNG Combabula Development Area and Narrows Pipeline (PPL162) environmental authorities. The audits were conducted in accordance with AS/NSZ ISO 19011:2003. This work involved on-site and office based auditing of activities and documentation associated with the environmental authorities. Kate was responsible for the audit of management plans and documents against the environmental authority conditions, undertaking the audit of activities, coordination of requests for information, the administration of audit templates and findings, and liaison with APLNG responsible parties. Through these audits, Kate has gained a strong understanding of environmental authority conditions and their application to resource projects.

Environmental Auditor and Due Diligence, Queensland Government

Kate has recently conducted due diligence ahead of the previous Queensland Government's intended lease of public assets with a focus on environmental management procedures and implementation. The due diligence involved an assessment of an energy supplier's environmental performance to identify potential material issues, through a rigorous review of data room documentation, requests for information and meeting with the asset's environmental management team.

Other Projects

- Environmental Auditor, *Environment Protection and Biodiversity Conservation Act* approval audit, Australia Pacific LNG, Walloons Gas Fields, Queensland
- Coordinator-General approved audit team, APLNG Environmental Conditions and Approvals Audit, Australia Pacific LNG
- Environmental Auditor, third party audit of the PPL162 EA
- Environmental Auditor, Public Asset Lease Due Diligence, confidential client, Northern Territory
- Environmental Auditor, Recycled Water Management Plan Audit, Australia Pacific LNG, Talinga Water Treatment Facility, Queensland

Environmental Assessment/Approvals

Assistant Project Manager, Red Hill Mining Lease Project EIS, BMA

AECOM was engaged by BMA to prepare an EIS, and subsequently an EIS addendum, for a proposed mine expansion adjacent to the existing Goonyella Riverside Broadmeadow complex. Kate role as assistant project manager involved the compilation of the final stages of the EIS and the development of the addendum in response to stakeholder submissions. Kate has been responsible for budget management, addendum compilation and the ongoing liaison with BMA, relevant government bodies and technical specialists, including subcontractors. The Red Hill Mining Lease Project was approved by the Queensland Coordinator-General in June 2015.

Assistant Project Manager - Project Management Team, South of Embley Bauxite Mine and Port Project Commonwealth EIS, Rio Tinto, Weipa

The Rio Tinto Weipa South of Embley Bauxite Mine and Port Project (including shipping to Gladstone) required the management of a range of environmental and engineering specialists to assess impacts and develop mitigation measures to proactively address agency concerns, in order to facilitate timely approval and minimise onerous conditions. One of Kate's roles as Assistant Project Manager was to find innovative ways to provide clear and traceable documentation to address the requirements of DSEWPaC's Tailored EIS Guidelines, including the development and refinement of EIS chapters. This project provided valuable insight into the current expectations of the Commonwealth related to survey guidelines, offsets and significance determinations. The project was approved with minimal conditions in regards to shipping, despite considerable publicity.

Other Projects

- Assistant Project Manager, ExxonMobil PNG LNG Air Quality Monitoring, Papua New Guinea
- Project Management Team, New Lenton Coal Mine EIS, New Hope Coal, Queensland
- Project Administrator, Project Management Team, Kevin's Corner Coal Project, Hancock Coal Galilee Pty Ltd
- Approvals Coordinator, Alpha Coal Project, Secondment to Hancock Coal Pty Ltd, Queensland

Training

- URS Project Manager Certification, 2014
- Standard 11 Mine Induction – Surface Operations, 2013
- PMASUP236B - Operate Vehicles in the Field, 2014
- RIIVEH305A - Operate and Maintain 4WD Vehicle, 2014
- First Aid/CPR
- Queensland Government Department of Science, Information, Technology, Innovation and the Arts National Pollutant Inventory training, 2014
- Marine Mammal Observer Training (JNCC Certified)

Professional History

2013- Present
AECOM (formerly URS Australia Pty Ltd)
Environmental Scientist

2011 - 2012
URS Australia Pty Ltd
Graduate Environmental Scientist

2010 - 2011
SLR Consulting (Australia) Pty Ltd
Project Consultant Acoustics, Occupational Hygiene and HAZMAT

Appendix E

Auditor's statutory declarations

Auditor's Declaration of Independence

I, Robert Storrs of AECOM Services Ltd Pty, 540 Wickham Street, Fortitude Valley, QLD 4006 declare that to the best of my knowledge and belief I and my organisation do not have any conflicting or competing interests with:

The Auditee, Origin Energy (on behalf of Australia Pacific LNG), the Auditee's staff or representatives or other persons associated with the Auditee, including any personal, financial, business or employment relationship, except to the extent detailed below.

The project to be audited: Australia Pacific LNG Project (EPBC Approval 2009/4974) I shall notify the Department of the Environment within seven days of any change in these circumstances or any other change that may affect my independent status.

I shall at all times observe any professional code of conduct and/or ethics applicable to undertaking audits (i.e. – as prescribed by the agency with which I hold accreditation/membership). I take full responsibility for any factual inaccuracy or mistake made in giving this declaration, particularly to the extent that others rely upon the truth of this declaration. I acknowledge that the Department of the Environment may request further information to verify my independence at any time.

Details of any personal, financial, business or employment relationship with the Auditee, the Auditee's staff, representatives or associated persons. (This is in the context of both the person making the declaration and the organisation that they are employed by – specify 'nil' if none):

Nil

Details of any personal, financial, business or employment relationship with the project to be audited. (This is in the context of both the person making the declaration and the organisation that they are employed by - specify 'nil' if none):

Nil

Details of audit qualifications and professional accreditations/memberships. (Include copies of current audit qualifications and current professional accreditations/memberships) :

- Member of the Environment Institute of Australia and New Zealand (MEIANZ)
- Environmental Auditor – Exemplar (certificate number 14774)
- Queensland committee for economic development of Australia (CEDA) trustee

In making this declaration, I am aware that section 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the regulations. The offence is punishable on conviction by imprisonment for not more than 1 year, a fine not more than 60 penalty units, or both. An extract of section 491 of the EPBC Act is attached

Signed

Full name (please print) ____Robert Charles Andrew Storrs_____

Organisation (please print) __AECOM_____

Date _25_/_02_/_2016_

Footnote:

- Where an organisation or a team of auditors is nominated to undertake the audit, each individual that is nominated is to complete a separate declaration.
- The curriculum vitaes of all audit team members are to be submitted with the declaration outlining their relevant experience and qualifications.

Auditor's Declaration of Independence

I, David Curwen of AECOM Services Ltd Pty, 540 Wickham Street, Fortitude Valley, QLD 4006 declare that to the best of my knowledge and belief I and my organisation do not have any conflicting or competing interests with:

The Auditee, Origin Energy (on behalf of Australia Pacific LNG), the Auditee's staff or representatives or other persons associated with the Auditee, including any personal, financial, business or employment relationship, except to the extent detailed below.

The project to be audited: Australia Pacific LNG Project (EPBC Approval 2009/4974) I shall notify the Department of the Environment within seven days of any change in these circumstances or any other change that may affect my independent status.

I shall at all times observe any professional code of conduct and/or ethics applicable to undertaking audits (i.e. – as prescribed by the agency with which I hold accreditation/membership). I take full responsibility for any factual inaccuracy or mistake made in giving this declaration, particularly to the extent that others rely upon the truth of this declaration. I acknowledge that the Department of the Environment may request further information to verify my independence at any time.

Details of any personal, financial, business or employment relationship with the Auditee, the Auditee's staff, representatives or associated persons. (This is in the context of both the person making the declaration and the organisation that they are employed by – specify 'nil' if none):

Nil

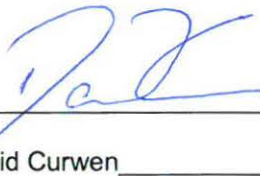
Details of any personal, financial, business or employment relationship with the project to be audited. (This is in the context of both the person making the declaration and the organisation that they are employed by - specify 'nil' if none):

Nil

Details of audit qualifications and professional accreditations/memberships. (Include copies of current audit qualifications and current professional accreditations/memberships) :

- Member of the Environment Institute of Australia and New Zealand (MEIANZ)

In making this declaration, I am aware that section 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the regulations. The offence is punishable on conviction by imprisonment for not more than 1 year, a fine not more than 60 penalty units, or both. An extract of section 491 of the EPBC Act is attached

Signed 

Full name (please print) ____David Curwen_____

Organisation (please print) __AECOM_____

Date _25_/_02_/_2016_

Footnote:

- Where an organisation or a team of auditors is nominated to undertake the audit, each individual that is nominated is to complete a separate declaration.
- The curriculum vitaes of all audit team members are to be submitted with the declaration outlining their relevant experience and qualifications.

Auditor's Declaration of Independence

I, Kate Every of AECOM Services Ltd Pty, 540 Wickham Street, Fortitude Valley, QLD 4006 declare that to the best of my knowledge and belief I and my organisation do not have any conflicting or competing interests with:

The Auditee, Origin Energy (on behalf of Australia Pacific LNG), the Auditee's staff or representatives or other persons associated with the Auditee, including any personal, financial, business or employment relationship, except to the extent detailed below.

The project to be audited: Australia Pacific LNG Project (EPBC Approval 2009/4974) I shall notify the Department of the Environment within seven days of any change in these circumstances or any other change that may affect my independent status.

I shall at all times observe any professional code of conduct and/or ethics applicable to undertaking audits (i.e. – as prescribed by the agency with which I hold accreditation/membership). I take full responsibility for any factual inaccuracy or mistake made in giving this declaration, particularly to the extent that others rely upon the truth of this declaration. I acknowledge that the Department of the Environment may request further information to verify my independence at any time.

Details of any personal, financial, business or employment relationship with the Auditee, the Auditee's staff, representatives or associated persons. (This is in the context of both the person making the declaration and the organisation that they are employed by – specify 'nil' if none):

Nil

Details of any personal, financial, business or employment relationship with the project to be audited. (This is in the context of both the person making the declaration and the organisation that they are employed by - specify 'nil' if none):

Nil

Details of audit qualifications and professional accreditations/memberships. (Include copies of current audit qualifications and current professional accreditations/memberships) :

- Member of the Environment Institute of Australia and New Zealand (MEIANZ) (Associate Member)

In making this declaration, I am aware that section 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the regulations. The offence is punishable on conviction by imprisonment for not more than 1 year, a fine not more than 60 penalty units, or both. An extract of section 491 of the EPBC Act is attached

Signed

Full name (please print) ____Kate Every_____

Organisation (please print) __AECOM_____

Date _25_/_02_/_2016_

Footnote:

- Where an organisation or a team of auditors is nominated to undertake the audit, each individual that is nominated is to complete a separate declaration.
- The curriculum vitaes of all audit team members are to be submitted with the declaration outlining their relevant experience and qualifications.

About AECOM

AECOM is built to deliver a better world. We design, build, finance and operate infrastructure assets for governments, businesses and organizations in more than 150 countries. As a fully integrated firm, we connect knowledge and experience across our global network of experts to help clients solve their most complex challenges. From high-performance buildings and infrastructure, to resilient communities and environments, to stable and secure nations, our work is transformative, differentiated and vital. A Fortune 500 firm, AECOM companies had annual revenue of approximately US$18 billion. See how we deliver what others can only imagine at aecom.com and @AECOM.