

Newcastle Gas Storage Facility

**OEMP Implementation Audit Report (AGL)
October 2015**

AGL Energy Limited
November 2015

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Newcastle Gas Storage Facility

OEMP Implementation Audit Report December 2015

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AGL Energy Limited

Newcastle Gas Storage
Facility
*Operations Environment
Management Plan
Implementation Audit
– October 2015*

December 2015

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EXECUTIVE SUMMARY

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned to perform an audit on the implementation of the Operations Environment Management Plan (OEMP) for the Newcastle Gas Storage Facility (NGSF) on behalf of AGL Energy Limited (AGL). The audit scope includes the operation of the gas storage facility site (the Project) by the AGL and covers the period from commencement of operations (mid-August 2015) to 23 October 2015. The primary purpose of the audit was to satisfy the Department of Planning and Infrastructure (DP&I) Ministers' Conditions of Approval (MCoA) B54a, which requires a Compliance Tracking Program that includes:

“(a) provisions for periodic reporting of compliance status to the Director-General including at least prior to the commencement of construction of the project, prior to the commencement of operation of the project and within two years of operation commencement”.

The audit included a review of the implementation of the Operations Environment Management Plan and supporting sub plans.

A qualitative risk assessment was also completed on the findings, consistent with AS/NZS 4360:2004 Risk management and HB 436:2004 Risk Management Guidelines Companion to AS/NZS 4360:2004 and as described in the Department of Planning & Environment publication “ Guidelines: Independent Environmental Audits” issued March 2014.

Overall a high standard of compliance with the audit criteria was achieved. Three non-compliances (assessed as medium risk), five administrative non-conformances and five observations have been identified for review and action by AGL. An action table addressing all findings of the audit has been developed by AGL and is attached to this report.

ABBREVIATIONS AND GLOSSARY

Term	Description
AGL	AGL Energy Limited
ANC	Administrative Non Conformance
C	Compliance
DP&I	Department of Planning and Infrastructure
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities
EPA	Environment Protection Agency
EPBC	Environment Protection and Biodiversity Conservation Act 1999
ERM	Environmental Resources Management Australia Pty Ltd
HWC	Hunter Water Corporation
McoA	Ministers Conditions of Approval
NC	Non-compliance
NGSF	Newcastle Gas Storage Facility (the 'Project')
NOW	New South Wales Office of Water
O	Observation - opportunity for improvement
OEMP	Operations Environment Management Plan
OWMP	Operations Water Management Plan
PPA	Primary Project Area
PSC	Port Stephens Council
SDS	Safety Data Sheet
SoC	Statement of Commitments

INTRODUCTION

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned to perform an audit on the implementation of the Operations Environment Management Plan (OEMP) for the Newcastle Gas Storage Facility (NGSF) on behalf of AGL Energy Limited (AGL).

The primary purpose of the audit was to satisfy the New South Wales (NSW) Department of Planning and Infrastructure (DP&I) Ministers' Conditions of Approval (MCoA) B54a, which requires a Compliance Tracking Program that includes:

“(a) provisions for periodic reporting of compliance status to the Director-General including at least prior to the commencement of construction of the project, prior to the commencement of operation of the project and within two years of operation commencement”.

The audit scope includes the operation of the gas storage facility site (the Project) by the AGL and covers the period from commencement of operations (mid-August 2015) to 23 October 2015.

1.1

PROJECT DESCRIPTION

AGL Energy Limited (AGL) has developed the Newcastle Gas Storage Facility (NGSF) in Tomago New South Wales to meet AGL's peak gas market requirements over winter and to provide additional security of gas supply during supply disruption events.

Construction of the NGSF was completed by CB&I Constructors Pty Ltd (CB&I) which included the gas storage facility site, access road and utility corridor and gas pipeline access corridor (the Project). Additional works by other contractors included construction of the gas pipeline to connect the existing Jemena Gate Station at Hexham with the gas storage facility and construction of the main power supply.

Construction has been completed and the NGSF is now operational.

1.2

AUDIT OBJECTIVE

The primary objectives for the OEMP implementation audit included the following:

- to confirm implementation of AGL's OEMP and supporting sub-plans (relevant at time of audit);

- to identify the areas for potential improvement for environmental management; and
- provide advice as to whether any amendments to the OEMP and any supporting plans are required.

This audit represents a snapshot of performance on the days of the audit.

1.3 *AUDIT SCOPE*

The audit scope is limited to the activities that have been undertaken at the site during the audit period and includes the following:

- final process commissioning;
- operation of the NGSF.

1.4 *AUDIT CRITERIA*

The audit covered the following specifications and standards, with a particular focus on activities associated with the current stages of construction. The documents relevant to this audit included:

- DP&I, Ministers Conditions of Approval MP10_0133 issued 10 May 2012;
- Modification of Minister's Approval MP10_0133 issued 5 February 2013;
- Statement of Commitments from the Preferred Project Report CR 6023_1-_v3 issued September 2011;
- Operations Environment Management Plan (Rev 2 issued June 2015) with supporting plans including:
 - Noise Management Plan;
 - Air Quality Management Plan;
 - Waste Management Plan;
 - Operational Traffic Management Measures; and
 - Flora and Fauna Management Plan.
- Operations Water Management Plan (Rev 3 issued 15 April 2015);

- Environmental Representative Site Inspection Reports for period from commencement of operations (mid-August 2015) to 23 October 2015.

1.5 *LIMITATIONS OF THIS REPORT*

This disclaimer, together with any limitations specified in the report, applies to this report and its use.

This report was prepared in accordance with the contracted scope of services for the specific purpose stated and subject to the applicable cost, time and other constraints. In preparing this report, ERM relied on:

- a) client/third party information which was not verified by ERM except to the extent required by the scope of services, and ERM do not accept responsibility for omissions or inaccuracies in the client/third party information; and
- b) information taken at or under the particular times and conditions specified, and ERM do not accept responsibility for any subsequent changes.

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2 *AUDIT METHODOLOGY*

2.1 *METHODOLOGY AND PROCESS*

The audit comprised a site inspection, interviews with key personnel and review of records and other related documentation on 23 October 2015. The audit process included the following primary components:

- development of a Terms of Reference developed which included:
 - audit scope and objectives;
 - date and location of audit;
 - members of audit team;
 - list of people to be audited; and
 - list of reference documents and audit criteria.
- an opening meeting was held on 23 October 2015 at the site office to confirm audit objectives and scope. Attendees included:
 - Megan McLachlan (ERM Auditor); and
 - Brett Hayward (AGL Environment Manager).
- a site inspection was undertaken on 23 October 2015;
- any identified gaps/issues were documented and followed up with site personnel and additional information was requested as required;
- a closeout meeting was held on 23 October 2015 to discuss initial findings and recommendations. Attendees included:
 - Megan McLachlan (ERM Auditor); and
 - Brett Hayward (AGL Environment Manager).
- preparation of draft audit report;
- response and action plan developed by AGL (refer *Annex D*); and
- preparation of final audit report.

Findings resulting from an assessment of audit evidence were divided into five categories as follows:

- **Compliant (C):** the intent and all specific requirements of the condition/audit requirement have been met.
- **Non-compliant (NC):** the intent or one or more specific requirements of the condition/audit requirement have not been met.
- **Administrative Non-conformance (ANC):** technical conformance with a condition of the consent that would not result in material harm to the environment.
- **Observation (O):** A finding which does not strictly relate to the scope of the audit and which could lead to performance improvement.
- **Not Applicable (NA):** a condition or requirement has an activation or timing requirement that had not been sufficiently triggered at the time of the review, therefore a determination of compliance could not be made.

A qualitative risk assessment was also completed on the findings, consistent with AS/NZS 4360:2004 Risk management and HB 436:2004 Risk Management Guidelines Companion to AS/NZS 4360:2004 and as described in the Department of Planning & Environment publication “ Guidelines: Independent Environmental Audits” issued March 2014.

The overall level of risk was estimated by combining the likelihood of harm occurring with the estimated level of harm associated with each finding.

A non-compliance assessed as ‘high’ suggests it is of considerable environmental significance and therefore must be dealt with and resolved as a matter of priority. These are colour coded red in the assessment table. A ‘moderate’ assessment for non-compliance is still a significant risk of harm to the environment; however it can be given a lower priority than a red risk assessment and are colour code orange. A non-compliance assessed as ‘low’ suggests that it could receive a lower priority but still must be attended to. These are colour coded green.

There are also a number of license and operating conditions – such as those relating to administration and reporting requirements – that do not have a direct environmental/community significance, but are still important to the integrity of the regulatory system. Non-conformance with these conditions is given a ‘blue’ code.

3.1 PREVIOUS AUDIT FOLLOW-UP

The previous audit findings from the construction phase have now been completed.

The pre operations audit completed May 2015 was primarily a desk top review of the OEMP and associated sub plans which were assessed for compliance with the MCoA, SoC and the EPBC approval conditions. The audit identified seven non-conformances and eight observations with the primary findings related to administrative errors or omissions in the OEMP and associated supporting plans.

A summary of AGL's response to the previous audit finding is included in *Annex D*. Outstanding actions from previous audits are summarised below in *Table 3.1*.

Table 3.1 *Previous Audit Findings: Summary of Actions Outstanding*

Assessment Requirement	Finding	Response
<i>Minister's Conditions of Approval MP10_0133</i>		
During operation, the Proponent shall store and handle all dangerous goods, as defined by the Australian Dangerous Goods Code, strictly in accordance with: (a) all relevant Australian Standards; and (b) DECC's Environment Protection Manual Technical Bulletin - Bunding and Spill Management. In the event of an inconsistency between the requirements listed from (a) to (b) above, the most stringent requirement shall prevail to the extent of the inconsistency	Section 2.2 lists types and quantities of dangerous goods. Does not list relevant AS and appropriate measures required for the material under the AS. Include the table of DGs with type, quantities, relevant AS and identification of appropriate measures required for the management of the material under that standard into the CEMP or appropriate support plan.	Response pending from AGL
<i>Statement of Commitments</i>		
Noise emissions will be confirmed for equipment and infrastructure (including low frequency noise) during detailed design when final specifications are known. The potential for high-flow gas flaring at the gas plant site will be reviewed and noise assessment may be required to determine impacts of noise associated with high-flow gas flaring.	Noise associated with high-flow gas flaring not include in current plan. Include the need to monitor noise during a high-flow gas flaring event to determine impacts into the NMP.	Response pending from AGL

A compliance check of the MCoA and SoC conditions (field component) was completed against the commitments made in the OEMP and supporting plans for the site (refer to *Annex D* for site inspection log). Non-compliances and observations for each sub plan reviewed are summarised in *Table 3.1*.

A full review and audit findings for implementation of the OEMP and supporting plans are under the following Annexures:

- Operations Environment Management Plan *Annex A*
- OEMP Supporting Management Plans *Annex B*
 - Noise Management Plan
 - Air Quality Management Plan
 - Waste Management Plan
 - Operational Traffic Management Measures
 - Flora and Fauna Management
- Operations Water Management Plan *Annex C*

As discussed in *Section 2.2*, a qualitative risk assessment was also completed on the findings as follows:

- non-compliance assessed as 'high' have been colour coded red;
- non-compliance assessed as 'moderate' have been colour coded orange;
- non-compliance assessed as 'low' have been colour coded green; and
- administrative non-conformances have been colour coded blue.

Table 3.2 Summary of Audit Findings

Item No	Assessment Requirement	Comment	Audit Classification
<i>Operations Management Plan Commitments</i>			
5.4	Quarterly - Report to NGSF Community Consultative Committee Report on environmental and other performance to Community Consultative Committee	<p>Last minutes on website dated 5 November 2014.</p> <p>Meeting held 4 February 2015 – minutes sighted. Indicates meetings to be completed 6 May 2015 and 4 November 2015. Minutes not available</p> <p>Community Engagement Plan indicates in Section 1.3 that it will be reviewed in the lead up to the operational phase of the project.</p> <p>Community Engagement Plan and OEMP to be updated to reflect current methods of informing the community regarding operational issues.</p> <p>CCC minutes to be uploaded to website.</p>	ANC
6.1	Site inspections are to be undertaken weekly and following significant rainfall events.	<p>Check sheets do not currently include checks for erosion as no longer applicable in operations phase as all work areas sealed/hardstand. Water in the sumps and wetlands are checked for pH, TDS, EC and visual pollutants with results sent to Environment Manager for approval prior to discharge of water from the site.</p> <p>Amend plan to reflect actual activities</p>	ANC
6.1	Monitoring for glycol leaks is to be undertaken through visual inspections by operators for leaks and levels of glycol in the equipment. Glycol inspection requirements are to be included in standard operating procedures (SOPs).	<p>Daily checks are completed but not recorded. Weekly check sheets include checks for glycol leaks.</p> <p>SOP not developed.</p> <p>Daily checklist to be developed which will include checks for glycol leaks.</p>	ANC
<i>Noise Management Plan Commitments</i>			
4.2	<p>The site induction will include a noise management component. Examples of noise management topics that may be covered during the project induction include:</p> <ul style="list-style-type: none"> • Location of noise sensitive areas. • Operational activities likely to generate significant noise. 	<p>Location of noise sensitive areas, operational activities likely to generate significant noise and noise management measures not currently include in induction.</p> <p>Consider including all noise aspects as per the OEMP into the induction.</p>	ANC

Item No	Assessment Requirement	Comment	Audit Classification
	<ul style="list-style-type: none"> Noise management measures. Responsibilities of personnel with regard to noise management. <p><i>Air Management Plan Commitments</i></p>		
3.2	Condition of Approval C12 for the project included maximum allowable air discharge limits at two discharge points within the gas plant. These discharge limits are included in Table 3-1. The monitoring locations are shown on Figure 2.	There are 4 monitoring points instead of two (one for the stack associated with the Gas Liquefaction system (Point 9) and three for the Regassifier of LNG vaporiser (point 4). Variation to the EPL to be completed - currently in the process of being drafted. EPA is aware of the issue.	NC
	<i>Waste Management Plan Commitments</i>		
3.1	<p>Waste generated during operation of the project will be managed in accordance with the waste management hierarchy:</p> <ul style="list-style-type: none"> Reduce. Re-use. Recycle. Dispose. <p>Waste reduction and reuse strategies will be implemented where practical and cost effective.</p> <p>Recycling initiative will be implemented where possible.</p>	Waste volumes not currently tracked in the waste register. Consider tracking the volumes of wastes disposed off-site to identify dominant waste streams and opportunities for further recycling.	O
3.1	All wastes will be classified in accordance with the Waste Classification Guidelines (DECC 2008). As per the Waste Classification Guidelines, some wastes have been "pre-classified"; therefore sampling and confirmation of the waste is not required. Wastes outside of the scope of pre-classified waste will need to be tested to confirm its waste classification.	Guidelines were updated in November 2014 therefore the plan should be updated accordingly.	ANC
3.2	Batteries - off-site disposal at an approved facility	<p>Lead acid batteries are classified as a Dangerous Good under the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code) - UN No. 2794, Class 8 (corrosive).</p> <p>Consider including the requirement to take batteries to a recycling facility into the Waste Management Plan (WMP) and highlight in WMP batteries</p>	O

Item No	Assessment Requirement	Comment	Audit Classification
		cannot be placed in general solid waste bins.	
4.2	<p>The site induction will include a waste management component. Examples of waste management topics that may be covered during the project induction include:</p> <ul style="list-style-type: none"> • Waste storage and segregation. • Waste disposal and recycling. • Waste reporting. • Responsibilities of personnel with regard to waste management. 	All aspects included. Consider including in the induction list of hazardous wastes produced by the site and the disposal locations.	O
5.3.2	Waste docket / receipts / manifests will also be retained to record the date of waste removal, the waste transport contractor and the waste destination	<p>Amine impacted water transported from site with receipt sighted. Amine filters removed from site 8 October 2015 however, receipt/certificate pending.</p> <p>Consider directing site staff to collect receipts from waste contractors prior to leaving site.</p>	ANC
5.3.3	<p>The following records relating to waste management are to be maintained:</p> <ul style="list-style-type: none"> • Waste tracking register. • Waste docket / receipts / manifests from landfills, recycling facilities and waste contractors. • Letters regarding waste classifications, general resource recovery exemptions or suitability of material to be re-used on site. • Records of weekly site inspections 	<p>Weekly site inspections do not currently include checks for waste.</p> <p>Consider the addition of checks for general waste management on the operator weekly checklist.</p>	ANC
5.3.4	<p>Waste materials are to be tracked so that the appropriate management of wastes can be demonstrated.</p> <p>A register containing the following information must be kept:</p> <ul style="list-style-type: none"> • The material type and volume. 	<p>Hazardous wastes actual volumes not tracked in the waste register.</p> <p>General and solid waste volumes are not currently recorded in the register. The waste contractor sends a monthly report summarising waste volumes.</p> <p>Consider tracking the volumes of wastes disposed off-site to identify dominant waste streams and opportunities for further recycling. Also</p>	ANC

Item No	Assessment Requirement	Comment	Audit Classification
		consider recording the waste certificate numbers for the trackable wastes.	

Item No	Assessment Requirement	Comment	Audit Classification
<i>Operational Traffic Management Measures</i>			
Table 1	Establish operational speed limits at the gas plant site and the HRS site.	Reported that speed limit is 10km/h whilst on site. Signs and documentation of speed limit not sighted. Consider the inclusion of the site speed limit on the induction slide pack and the relevant SOPs.	O
<i>Flora and Fauna Management Plan Commitments</i>			
5.1	Speed limit along the access road into site is 50km/h. This speed limit, for the purposes of reducing Koala fatalities, is appropriate due to the low traffic volumes, excellent road verge vision, road alignment (straight) and wide road verges.	Signage along road indicates speed limit is 60km/h until near approach to site which consist of bends in the road – the speed limit in this area is reduced to 40km/h. Consider aligning the plan to the final speed limit adopted for the site.	ANC
<i>Operations Water Management Plan Commitments</i>			
5.2	The results of the groundwater monitoring program will be analysed using the exponentially weighted moving average (EWMA), which is an effective method for identifying trends.	EWMA graphs only completed for MW1-MW7. Consider developing EWMA's for all GW bores.	NC
5.1 and 6.1	Spill kits to be provided at key locations (e.g., near high risk spill locations such as the warehouse).	Spill kits located around site near areas of chemical use/storage including process areas and maintenance building. Consider including location of spill kits in induction slide concerning spills.	O
6.2	The results of the surface water monitoring program will be analysed using the exponentially weighted moving average (EWMA), which is an effective method for identifying trends. EWMA plots will be included in the six monthly monitoring reports.	EWMA graphs only completed for MW1-MW7. Consider developing EWMA's for SW locations.	NC

CONCLUSION

An audit to review the implementation of the following management plans was completed:

- Operations Environment Management Plan and Supporting Plans:
 - Noise Management Plan
 - Air Quality Management Plan
 - Waste Management Plan
 - Operational Traffic Management Measures
 - Flora and Fauna Management Plan
- Operations Water Management Plan

Overall, substantial conformance was achieved with the audit documents that were reviewed with the exception of three non-compliances (assessed as medium risk), five administrative non-conformances and five observations. An action response table has been developed addressing all audit findings and is included in *Annex D*.

Annex A

Audit Table - Operations
Environment Management
Plan

Table A1 Compliance Assessment – Implementation of the Operations Environment Management Plan

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Operations Management Plan Commitments					
<i>Training and Competence</i>					
All AGL employees and contractors are required to attend an induction prior to commencing work on the site. The induction includes an environmental component to ensure that all site personnel are aware of their responsibilities with regard to environmental management.	Section 5.2.1	Records of induction attendance are kept in a spreadsheet (sighted). Induction slide packs Module 1 (general), Module 2 (NGSF Visitors Induction) and Module 3 (Workers Induction) reviewed	Environmental Management components included in slide packs.	C	
The environmental component of the site induction includes: <input type="checkbox"/> An overview of the OEMP, its purpose and content. <input type="checkbox"/> Environmental personnel, their roles and responsibilities and contact details. <input type="checkbox"/> Activities undertaken during operations that have the potential to impact on the environment. <input type="checkbox"/> Environmental controls to be implemented during operations. <input type="checkbox"/> Reporting environmental incidents. <input type="checkbox"/> Emergency and spill response procedures.	Section 5.2.1	Induction slide packs Module 1 (general), Module 2 (NGSF Visitors Induction) and Module 3 (Workers Induction) reviewed	Induction includes all requirements	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
<p>Pre-shift meetings are held prior to each shift and are of approximately 10-15 minutes duration. The purpose of the meeting is to inform personnel of activities to be undertaken during the shift, as well as to discuss safe work practices, environmental protection practices, hazards and other information that may be relevant.</p> <p>Environmental topics covered may include:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Noise management. <input type="checkbox"/> Air quality. <input type="checkbox"/> Waste management. <input type="checkbox"/> Groundwater and surface water quality. <input type="checkbox"/> Bushfire prevention and management. <input type="checkbox"/> Environment incidents. <input type="checkbox"/> Changes to environmental procedures or measures. 	Section 5.2.2	<p>Register of site staff</p> <p>Visual Boards</p> <p>Sign on sheets</p>	<p>A register of attendees for each pre-shift meeting is kept at the project office.</p> <p>All staff sign onto register prior to entering NGSF site. Visual boards summarise main aspects of each area such as safety, production and environment. Environment section overviews any issues including recent incidents.</p> <p>Management visual board reports groundwater and surface monitoring results.</p>	C	
<p>Any additional environmental training that is identified will be undertaken as required.</p>	Section 5.2.4	Hazard Hunt 16 October 2016	<p>Hazard Hunt was completed 16 October 2016 with six NGSF staff and three HSE staff members. Involved training slides and then search for HSE hazards on site.</p>	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Reporting					
Monthly Project Report - Provides management with an overview of performance for the month.	Section 5.4	Interview - Environment Manager	The project is now completed therefore monthly reports are no longer required or completed. Meetings are held at the Hexham office on Monday, Wednesday and Fridays to discuss all matters regarding the AGL NGSF including environmental performance (incidents and issues).	C	
Annual Internal audit report - Audit of compliance against the conditions of approval, as well as other approvals, licences and consents.	Section 5.4	Interview - Environment Manager	Audits to be completed by the ER until six months after operations have commenced. Intention is the AGL Environment Manager will complete audits at a minimum annually thereafter.	C	
Quarterly - Report to NGSF Community Consultative Committee Report on environmental and other performance to Community Consultative Committee	Section 5.4	Interview - Environment Manager Website - AGL NGSF Community Engagement Plan	Last minutes on website dated 5 November 2014. Meeting held 4 February 2015 - minutes sighted. Indicates meetings to be completed 6 May 2015 and 4 November 2015. Minutes not available Community Engagement Plan indicates in Section 1.3 that it will be reviewed in the lead up to the operational phase of the project.	ANC	Community Engagement Plan and OEMP to be updated to reflect current methods of informing the community regarding operational issues. CCC minutes to be uploaded to website.

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Monitoring and Compliance					
Site inspections are to be undertaken weekly and following significant rainfall events.	Section 6.1	Interview - Environment Manager Operators Weekly Check sheets	Check sheets do not currently include checks for erosion as no longer applicable in operations phase as all work areas sealed/hardstand. Water in the sumps and wetlands are checked for pH, TDS, EC and visual pollutants with results sent to Environment Manager for approval prior to discharge of water from the site.	ANC	Amend plan to reflect actual activities
Monitoring for glycol leaks is to be undertaken through visual inspections by operators for leaks and levels of glycol in the equipment. Glycol inspection requirements are to be included in standard operating procedures (SOPs).	Section 6.1	Operator weekly check sheets	Daily checks are completed but not recorded. Weekly check sheets include checks for glycol leaks. SOP not developed.	ANC	Daily checklist to be developed which will include checks for glycol leaks.
Incident Reporting					
Environmental incidents on site will be logged into AGL's MyHSE incident reporting system. Actions can be assigned to responsible persons and the system tracks progress against action items	Section 6.3	MyHSE List of incidents TPI Waste Tracking Certificate (J2413868) dated 23/09/2015	One environmental incident on 21 October (leak of glycol from amine reboiler) and three near misses. 17/09/2015: leak of amine from pump which drained to the process area sump. This was pumped out by waste contractor with waste certificate issued. Pump to be repaired - leaks being captured in IBC with amine reused.	C	

Annex B

Audit Table -OEMP
Supporting Management
Plans

Table B1 Compliance Assessment - Implementation of the Supporting Plans

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Noise Management Plan Commitments					
Training and Competence					
<p>The site induction will include a noise management component. Examples of noise management topics that may be covered during the project induction include:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Location of noise sensitive areas. <input type="checkbox"/> Operational activities likely to generate significant noise. <input type="checkbox"/> Noise management measures. <input type="checkbox"/> Responsibilities of personnel with regard to noise management. 	Section 4.2	Induction slide packs Module 1 (general), Module 2 (NGSF Visitors Induction) and Module 3 (Workers Induction) reviewed	<p>Staff to report excessive noise from machinery/equipment.</p> <p>Location of noise sensitive areas, operational activities likely to generate significant noise and noise management measures not currently included in induction.</p>	ANC	Consider including all noise aspects as per the OEMP into the induction.
Noise Monitoring					
Noise monitoring will be undertaken after 3 months (but within 12 months) of the plan being handed over to AGL control to determine whether compliance with the maximum allowable noise limits in Table 3-2 is being achieved. The results of this initial noise monitoring will determine whether noise mitigation measures and / or further noise monitoring is required.	Section 5.1.1	Interview - Environment Manger	Operations commenced mid-August therefore earliest monitoring can be completed is mid-November 2015	NA	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
<p>The noise monitoring will be undertaken by an acoustic consultant and will comprise the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Monitoring of noise will be undertaken at each of the sensitive receivers identified in Table 3-1 and on Figure 2. <input type="checkbox"/> Noise monitoring will consist of noise measurements during each time period specified in Table 3-2 at each receiver. <input type="checkbox"/> Noise monitoring will also be undertaken at the gas plant site and the HRS to determine whether equipment and machinery is performing within expected noise limits. <p>The scope of the noise monitoring program will be further developed in consultation with the acoustic consultant prior to commencement of monitoring.</p>	Section 5.1.2	Interview - Environment Manger	Operations commenced mid-August therefore earliest monitoring can be completed is mid-November 2015	NA	
<p>If results of the initial noise monitoring concludes that the maximum allowable limits have been exceeded, additional monitoring events (following implementation of noise mitigation measures) will be undertaken to confirm the success of those measures</p>	Section 5.1.4	Interview - Environment Manger	Operations commenced mid-August therefore earliest monitoring can be completed is mid-November 2015	NA	
<p>Additional monitoring may also be undertaken in the event that complaints are received in regard to operational noise from the NGSF</p>	Section 5.1.4	Interview - Environment Manger Complaints Register	No complaints have been received during the reporting period..	NA	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Appendix A - Noise Management Measures					
Operational activities are to be undertaken with a focus on noise control at source, noise attenuation and in consultation with potentially affected receptors to minimise the risk of noise exceeding noise criteria and disturbing sensitive receptors.	Table A-1	Interview - Environment Manger Environmental Noise Monitoring Report 18 June 2015 - CB&I	CB&I required to complete check of noise emissions of equipment during operations as part of their contract. All primary equipment checked and within design criteria.	C	
Potential noise receptors are to be contacted about the nature of operations noise emissions and avoidance and mitigation practices to be adopted.	Table A-1	Interview - Environment Manger Letter to Community - 6 October 2015 Email from Community Relations Coordinator 7 October 2015	The CCC fulfilled this requirement during construction. Recently works were completed at Hexham that include purging of the gas lines of water which may be noisy. Letter was sent to surrounding businesses potentially impacted.	C	
Feedback and complaints relating to noise are to be recorded and addressed.	Table A-1	Interview - Environment Manger Complaints Register	No complaints received during reporting period. No response to letter sent to surrounding businesses prior to maintenance works at Hexham completed 8-9 October 2015.	C	
Noise levels are to be monitored during operations to ensure localised noise creep (increase in local ambient noise) is not occurring due to the Project	Table A-1	Interview - Environment Manger	Monitoring to be completed after mid November 2015	NA	
Vehicles and equipment are to be kept in good working order and have effective noise reduction features.	Table A-2	Interview - Environment Manger Mex maintenance demonstration	Checked Mex maintenance - lists assets and maintenance schedule - includes monthly, quarterly, six monthly and annual checks.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Noise emissions during operations is to be monitored to ensure equipment is meeting noise certification and criteria requirements and detect any faulty or damaged equipment.	Table A-2	Interview - Environment Manger Environmental Noise Monitoring Report 18 June 2015 - CB&I Weekly Operator Check sheets	CB&I required to complete check of noise emissions of equipment during operations as part of their contract. All primary equipment checked and within design criteria. Weekly sheets include checks for excessive noise from equipment	C	
Air Management Plan Commitments					
Emission Limits					
Condition of Approval C12 for the project included maximum allowable air discharge limits at two discharge points within the gas plant. These discharge limits are included in Table 3-1. The monitoring locations are shown on Figure 2.	Section 3.2	Interview - Environment Manger Site walkover	There are 4 monitoring points instead of two (one for the stack associated with the Gas Liquefaction system (Point 9) and three for the Regassifier of LNG vaporiser (point 4). Variation to the EPL to be completed - currently in the process of being drafted. EPA is aware of the issue. Ectimo to be retained next month to complete monitoring.	NC	4 points of discharge instead of 2 as proposed - process underway to vary the EPL. Consider varying the EA to align with changes.
Greenhouse Gas Reduction					
Plant and equipment performance efficient assessments will be undertaken after the first 10 years of operations to review if there are any feasible and reasonable measures that can be taken to reduce greenhouse gas emissions.	Section 3.4	Interview - Environment Manger	Plant commenced operations mid-August 2015 therefore assessment will not be completed until 2025.	NA	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Training and Competence					
<p>The site induction will include an air quality component. Pre-shift meetings will include discussion of emissions management, if relevant to works currently being undertaken at the site.</p> <p>Examples of air quality management topics that may be covered during the project induction include:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Emission sources. <input type="checkbox"/> Air quality management measures <input type="checkbox"/> Responsibilities of personnel with regard to air quality management. 	Section 4.2	<p>Induction slide packs Module 1 (general), Module 2 (NGSF Visitors Induction) and Module 3 (Workers Induction) reviewed</p>	<p>Induction includes need for periodic air quality monitoring on particular air emitting equipment and to ensure work activities are carried out in a competent manner and all plant and equipment is maintained correctly.</p> <p>Any substance that has the potential to cause odour is to be managed appropriately and any odour related issues are to be reported.</p> <p>Includes requirement to report uncontrolled release of Mercaptan immediately.</p>	C	
Air Monitoring					
<p>Air quality monitoring will be undertaken to determine whether compliance with the maximum allowable emissions limits in Table 3-1 is being achieved.</p>	Section 5.1.1	Interview - Environment Manger	Ectimo to be retained next month to complete monitoring.	NA	
<p>In accordance with Condition of Approval C13, air quality monitoring will be undertaken quarterly for the first year following commissioning. Thereafter, the monitoring frequency will be as agreed between AGL and the Environment Protection Authority (EPA). In the event that there are two consecutive non-detectable results for a particular pollutant, monitoring of that pollutant may be discontinued.</p>	Section 5.1.2	Interview - Environment Manger	Ectimo to be retained next month to complete monitoring.	NA	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Monitoring will be undertaken at the two discharge points included in Table 3-1 and shown on Figure 2. Pollutants to be monitored are included in Table 5-1.	Section 5.1.2	Interview - Environment Manger	Ectimo to be retained next month to complete monitoring.	NA	
Additional monitoring will be undertaken in the event that monitoring detects emissions above limits to confirm operational practices or other measures to bring emissions within limits.	Section 5.1.4	Interview - Environment Manger	Ectimo to be retained next month to complete monitoring.	NA	
Reporting					
<p>The following reports will include an air quality component:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Monthly project report. <input type="checkbox"/> Internal audit report. <input type="checkbox"/> External audit report. <input type="checkbox"/> Community consultative report. <input type="checkbox"/> EPL report (if required). 	Section 5.3.1	<p>Interview - Environment Manger</p> <p>CCC Minutes November 2014</p> <p>Audit reports</p> <p>EPL report</p>	<p>Monthly project reports no longer completed as now in operations phase.</p> <p>CCC has been disbanded - last minutes available on website do not include an air quality component as not relevant to the stage of works at that time. Last community event included opening in June 2015.</p> <p>EPL annual report next due 2016.</p> <p>The ER audit reports do consider air quality.</p>	C	
Appendix A - Air Management Measures					
No offensive odour as defined under the Protection of the Environment Operations Act 1997 is to be emitted from the project site that would impact on any sensitive receiver.	Table A-1	<p>Site inspections</p> <p>Induction</p>	<p>Primary potential source of odour is mercaptan - has been noted in minor amounts during site walkovers. No complaints of odour received during reporting period. Induction include requirement to notify the plant manager immediately an uncontrolled release of mercaptan occurs.</p>	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
There will not be any gas venting during shutdown other than in an emergency.	Table A-1	Interview - Plant Operator	All gas at the plant vents through to the flare. All gas in the system can be diverted through to the flare which eliminates the occurrence of gas venting during shut downs.	C	
Reasonable and feasible measures are to be employed to ensure that the project is operated in a manner that minimises or prevents the emission of dust.	Table A-2	Site inspections	All operational areas are sealed or covered with blue metal gravel.	C	
The access road is to be sealed during operations to prevent the generation of dust by vehicles using the road and to prevent dirt being carried onto the TAC Northern Access Road or Old Punt Road where it could form dust.	Table A-2	Site inspections	All roads on site and access to the site are sealed. No tracking of dirt onto TAC Northern Access Rd or Old Punt Rd noted during ER site inspections for the reporting period.	C	
Waste Management Plan Commitments					
Waste Management Approach					
<p>Waste generated during operation of the project will be managed in accordance with the waste management hierarchy:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Reduce. <input type="checkbox"/> Re-use. <input type="checkbox"/> Recycle. <input type="checkbox"/> Dispose. <p>Waste reduction and reuse strategies will be implemented where practical and cost effective.</p> <p>Recycling initiative will be implemented where possible.</p>	Section 3.1	<p>Site inspections</p> <p>Interview - Environment Manager</p>	<p>Bins noted in the control building and carpark for recycling - cardboard, paper, mixed recyclables.</p> <p>Main waste streams include waste amine, waste amine filters and sewage which are all trackable with the exception of sewage.</p> <p>Waste volumes not currently tracked in the waste register.</p>	O	Consider tracking the volumes of wastes disposed off-site to identify dominant waste streams and opportunities for further recycling.

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
All wastes will be classified in accordance with the Waste Classification Guidelines (DECC 2008). As per the Waste Classification Guidelines, some wastes have been “pre-classified”; therefore sampling and confirmation of the waste is not required. Wastes outside of the scope of pre-classified waste will need to be tested to confirm its waste classification	Section 3.1	WMP Waste Classification Guidelines (DECC 2008). Waste Classification Guidelines (EPA 2014)	Guidelines were updated in November 2014 therefore the plan should be updated accordingly.	ANC	Waste Management Plan to be updated to reflect updated Classification Guidelines (no major changes)
Mercury removal process – removed from site by a licensed waste contractor	Section 3.2	Interview – Environment Manager Waste Register	Amine – deactivated carbon filters will contain mercury however is likely to only need replacing every five years. No mercury waste removed from site during period of reporting.	NA	
Wastewater removed from site by a licensed contractor	Section 3.2	Letter from Suez Environmental issued 23 July 2015 Interview – Environment Manager	Wastewater removed from site by Suez (EPL 217). Letter received from Suez confirming disposal location for effluent is at Hunter Water site in Raymond Terrace.	C	
Oil and grease removed from site and disposed of by a licensed contractor	Section 3.2	Waste Register Interview – Environment Manager	SITA removes oil and grease/ oily water from site under EPL6320 with disposal location at TPI Kooragang site (EPL6124)	C	
Domestic waste removed from site and disposed of by a licensed contractor	Section 3.2	Letter from Suez Environmental issued 23 July 2015 Interview – Environment Manager	General waste is removed from site by Suez with disposal location Newline Road Landfill located in Raymond Terrace	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Ink cartridges - off-site recycling	Section 3.2	Site Inspection Interview - Environment Manager	Ink cartridges collected in a Planet Ark bag and are taken to an authorised collection point - approximately three printers in the administration building.	C	
Batteries - off-site disposal at an approved facility	Section 3.2	Site Inspection Interview - Environment Manager	Lead acid batteries are classified as a Dangerous Good under the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code) - UN No. 2794, Class 8 (corrosive). Batteries only contained within forklift only - none disposed to date.	O	Consider including the requirement to take batteries to a recycling facility into the Waste Management Plan (WMP) and highlight in WMP batteries cannot be placed in general solid waste bins.
Paper, plastic, cardboard - off-site recycling	Section 3.2	Site Inspection Interview - Environment Manager	Noted during site inspections that recycling bins are in place in the lunch room and outside in the carpark for mixed recyclables, paper and cardboard.	C	
Glass bottles and aluminium cans - off-site recycling	Section 3.2	Site Inspection Interview - Environment Manager	Noted during site inspections that recycling bins are in place in the lunch room and outside in the carpark for mixed recyclables, paper and cardboard.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Training and Competence					
<p>The site induction will include a waste management component. Examples of waste management topics that may be covered during the project induction include:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Waste storage and segregation. <input type="checkbox"/> Waste disposal and recycling. <input type="checkbox"/> Waste reporting. <input type="checkbox"/> Responsibilities of personnel with regard to waste management. 	Section 4.2	Induction slide packs Module 1 (general), Module 2 (NGSF Visitors Induction) and Module 3 (Workers Induction) reviewed	All aspects included. Hazardous waste disposed in nominated bins.	O	Consider including in the induction list of hazardous wastes produced by the site and the disposal locations.
Monitoring					
Inspections will be undertaken if specific concerns are raised with regard to waste management.	Section 5.1.1	Interview - Environment Manager Site Inspections	The ER site inspections during the reporting period indicate a high level of housekeeping has been maintained with no wastes incorrectly disposed or outside waste receptacles.	C	
<p>Wastes generated by the Project will be tracked in accordance with the Protection of the Environment Operations (Waste) Regulation 2005.</p> <p>The waste tracking register included in Appendix B will be used to track all wastes leaving the site.</p>	Section 5.1.2	Site inspections Interview - Environment Manager	<p>Main waste streams include waste amine, waste amine filters and sewage which are all trackable with the exception of sewage.</p> <p>Hazardous wastes are tracked in the waste register.</p>	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Reporting					
<p>The following reports will include a waste management component:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Internal audit report. <input type="checkbox"/> External audit report. <input type="checkbox"/> EPL report (if required). 	Section 5.3.1	<p>ER Site Audit Reports</p> <p>EPL</p> <p>Interview - Environment Manager</p>	<p>ER site audit reports include waste component. Internal auditing will be completed after first six months and will include a waste component. No requirements to report on waste is included in the site EPL</p>	C	
<p>Waste dockets / receipts / manifests will also be retained to record the date of waste removal, the waste transport contractor and the waste destination</p>	Section 5.3.2	<p>Waste Receipts</p> <p>Waste receipt: amine water (J2413868) issued 23/09/2015</p>	<p>Amine impacted water transported from site with receipt sighted. Amine filters removed from site 8 October 2015 however, receipt/certificate pending.</p>	ANC	<p>Consider directing site staff to collect receipts from waste contractors prior to leaving site.</p>
<p>The following records relating to waste management are to be maintained:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Waste tracking register. <input type="checkbox"/> Waste dockets / receipts / manifests from landfills, recycling facilities and waste contractors. <input type="checkbox"/> Letters regarding waste classifications, general resource recovery exemptions or suitability of material to be re-used on site. <input type="checkbox"/> Records of weekly site inspections 	Section 5.3.3	<p>Waste tracking register</p> <p>Waste receipts</p> <p>Letter from Suez Environmental issued 23 July 2015</p> <p>Operator weekly checklists</p>	<p>Waste register not maintained for all wastes - refer previous finding. Refer above finding re waste receipts.</p> <p>Letter from Suez environmental confirming types of waste removed and final disposal locations</p> <p>Weekly site inspections do not currently include checks for waste however site inspections indicate waste management is appropriate.</p>	ANC	<p>Consider the addition of checks for general waste management on the operator weekly checklist.</p>

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Appendix A - Waste Management Measures					
No waste generated outside of the site is to be received at the site for storage, treatment, processing, reprocessing, or disposal on the site during operation, except as permitted by an Environment Protection Licence.	Table A-1	Inductions Site Inspections	The induction includes the commitment of no waste from off site to be accepted. No third party waste noted during site inspections during the reporting period.	C	
Reuse and/or recycling of operation waste materials generated on site is to be maximised, to minimise the need for treatment or disposal of those materials outside the site.	Table A-1	Site Inspections	Recycling bins noted on site for mixed recyclables, paper and cardboard.	C	
Waste and recycling bins are to be provided at the project office and other locations within the site.	Table A-2	Site Inspections	Recycling bins noted on site for mixed recyclables, paper and cardboard.	C	
Waste and recycling bins are to be emptied regularly to prevent accumulation of wastes on site.	Table A-2	Interview - Environment Manager	Waste is collected monthly which is appropriate for the scale of operations/number of staff on site.	C	
Waste is to be stored in a protected area away from vermin and weather.	Table A-2	Site Inspections	Noted during the site inspections that all wastes are stored in covered bins.	C	
Quantities of waste stored on site are to be kept to a minimum.	Table A-2	Site Inspections Interview - Environment Manager	Main waste streams include waste amine, waste amine filters and sewage which are all collected regularly under contract with Suez Environmental. Site inspections indicate waste volumes stored on site are low.	C	
Non-recyclable plastic and domestic waste are to be placed into skip bins for collection by a waste contractor.	Table A-2	Site Inspections	General waste skip bin noted during walkover. Wheelie bins located around process areas for collection of general waste.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Recyclable plastics will be placed into a recycling skip bin for collection by a recycling contractor.	Table A-2	Site Inspections	Recycling skip bin noted during walkovers	C	
Paper and cardboard are to be placed in a paper recycling skip bin for collection by a recycling contractor.	Table A-2	Site Inspections	Cardboard skip bin noted on site. Secure paper recycling in wheelie bin located inside administration building.	C	
Licensed contractors are to be used to collect, transport and dispose of hazardous materials such as waste solvents, paints, mercury absorption medium and hydrocarbons to a licensed off-site facility in accordance with EPA guidelines.	Table A-3	Waste Register Interview - Environment Manager	Amine - deactivated carbon filters will contain mercury however is likely to only need replacing every five years. No mercury waste removed from site during period of reporting. Will be removed by Suez Environmental when required. SITA removes oil and grease/ oily water from site under EPL6320 with disposal location at TPI Kooragang site (EPL6124)	C	
On-site waste disposal is not permitted	Table A-3	Site Inspections	No waste observed from off-site sources nor disposal of waste on site observed during site inspections.	C	
AGL is to seek prior approval under the Local Government Act 1993 for the installation and operation of a human waste storage facility.	Table A-4	OEMP - Appendix A9	Approval from Port Stephens Council to operate the sewage management system at the NGSF site is included in Appendix A9 of the OEMP	C	
Wastewater (including waste process water) and sewage is to be removed from site by an EPA licensed operator for treatment at an EPA-approved wastewater treatment or disposal facility.	Table A-4	Letter from Suez Environmental issued 23 July 2015 Interview - Environment Manager	Wastewater removed from site by Suez (EPL 217). Letter received from Suez confirming disposal location for effluent is at Hunter Water site in Raymond Terrace.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
<p>Any evidence of illegal dumping of wastes on the Project area is observed the dumped material is to will be removed immediately.</p> <p>If any liquid sludge or chemical waste is observed then appropriate sampling and monitoring will be implemented to determine whether any impact to groundwater has occurred.</p>	Table A-5	<p>Site Inspections</p> <p>Interview- Environment Manager</p> <p>Incident Register</p>	<p>No reporting of illegal dumping during the audit period.</p> <p>No spills of chemicals/wastewater outside sealed hardstand areas reported during reporting period.</p>	C	
<p>Waste materials are to be tracked so that the appropriate management of wastes can be demonstrated.</p> <p>A register containing the following information must be kept:</p> <ul style="list-style-type: none"> <input type="checkbox"/> The material type and volume. <input type="checkbox"/> The classification of the waste. <input type="checkbox"/> Where it was re-used, i.e. location on the Project site or property address if re-used off-site (if re-used); <input type="checkbox"/> Where it was disposed, i.e. landfill name and address (if disposed); <input type="checkbox"/> Reference number of relevant documentation, (i.e. waste dockets, waste classification letters), if applicable. <p>Documentation regarding the classification re-use, recycling and/or disposal must be retained. This could include waste dockets from landfills, and letters from consultants.</p>	Table A-6	<p>Site inspections</p> <p>Interview - Environment Manager</p>	<p>Hazardous wastes actual volumes not tracked in the waste register.</p> <p>General and solid waste volumes are not currently recorded in the register. The waste contractor sends a monthly report summarising waste volumes.</p>	ANC	<p>Consider tracking the volumes of wastes disposed off-site to identify dominant waste streams and opportunities for further recycling. Also consider recording the waste certificate numbers for the trackable wastes.</p>

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Operational Traffic Management Measures					
Implement driver and pedestrian safety awareness programs for AGL employees and contractors.	Table 1	Induction slide packs	Induction highlights vehicle safety.	C	
Implement a random alcohol and drug testing program for all site personnel.	Table 1	Pre entry inspection - LNG truck loading Site inspection Interview - Plant Operator	Breathalyser located in administration building. Pre-entry inspection checklists for LNG truck loading includes random alcohol test. Site operator reports that testing is completed at regular intervals.	C	
Establish operational speed limits at the gas plant site and the HRS site.	Table 1	Site inspections. Interview - plant operator Pre entry inspection - LNG truck loading Induction slide packs	Reported that speed limit is 10km/h whilst on site. Signs and documentation of speed limit not sighted. Any observations of excessive speed are recorded in MyHSE.	O	Consider the inclusion of the site speed limit on the induction slide pack and the relevant SOPs.
All personnel are to adhere to posted speed limits when on site.	Table 1	Site inspection	LNG trucks are escorted whilst on site and restricted to 10km/h speed limit. Forklift and small vehicle only other vehicles on site. Any observations of excessive speed are recorded in MyHSE.	C	
Transport any oversized equipment and machinery in accordance with RMS guidelines for oversized movements and ensure necessary permits are obtained.	Table 1	Interview - Environment Manager	Not applicable during audit period	NA	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Apply appropriate signage and traffic management facilities during maintenance work on roads or within road corridors.	Table 1	Interview - Environment Manager	Not applicable during audit period	NA	
Undertake heavy vehicles movements in accordance with a specific plan or as directed by police.	Table 1	Interview - Environment Manager	Not applicable during audit period	NA	
Ensure all AGL vehicles are adequately maintained.	Table 1	Interview - Environment Manger Mex maintenance demonstration	Checked Mex maintenance - lists assets and maintenance schedule - includes monthly, quarterly, six monthly and annual checks.	C	
Ensure carriageways are not obstructed by parked vehicles, stored goods, industrial bins etc.	Table 1	Site Inspections	Carriageways were noted to be clear of obstructions during site inspections completed during audit period.	C	
Private vehicles of personnel (including contractors) and visitors are to access the gas plant site and HRS site only via the designated access ways and are to be parked only in the designated car park.	Table 1	Site Inspections	Entry to the site is via one access road which is marked clearly. Car park is also marked clearly and is visible on entry to main site.	C	
Where specific operational activities are likely to impact upon traffic, consultation with stakeholders is to be undertaken in accordance with AGL's Community Engagement Plan (AGL 2013).	Table 1	Interview - Environment Manager	Not applicable during audit period	NA	
Undertake a road dilapidation report prior to significant maintenance events and restore any damage caused by that maintenance event.	Table 1	Interview - Environment Manager	Not applicable during audit period	NA	
Driver and pedestrian awareness is to be included in the site induction.	Table 1	Induction slide packs	Slide include in induction outlining vehicle and traffic rules.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Drivers are to adhere to the sign posted speed limits.	Table 1	Site inspection	<p>Speed limit along access road is restricted to 60km/h.</p> <p>LNG trucks are escorted whilst on site and restricted to 10km/h speed limit. Forklift and small vehicle only other vehicles on site.</p> <p>Any observations of excessive speed are recorded in MyHSE.</p>	C	
All employees, contractors and visitors are to be subjected to AGL's random alcohol and drug testing program.	Table 1	<p>Pre entry inspection - LNG truck loading</p> <p>Site inspection</p> <p>Interview - Plant Operator</p>	<p>Pre-entry inspection checklists for LNG truck loading includes random alcohol test.</p> <p>Site operator reports that testing is completed at regular intervals.</p>	C	
Flora and Fauna Management Plan					
Weed Management					
<p>Weeds that are opportunistically observed as part of the NGSF internal environmental audit program will be noted down, including their general location and type of weed.</p> <p>Where an infestation of weeds is identified, a program will be developed to target and control the weeds. The program will be developed taking into consideration the seasonal attributes of the weeds, such as spraying prior to flowering and other constraints that may be specific to individual weeds.</p>	Section 4.1	<p>Interview - Environment Manager</p> <p>Site Inspections</p>	<p>Klienfelder's have been engaged to complete weed control activities 6 monthly.</p> <p>Site inspections indicate weeds are managed effectively</p>	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Pest Management					
Employees will be encouraged to report on sightings of feral animals through toolbox talks.	Section 4.2	Interview - Environment Manager	Rat reported inside cabinet to Environment Manager - was released from cabinet and allowed to escape to outside area. Mouse was caught using live trap and released back to bushland as unclear if New Holland Mouse or the pest House Mouse.	C	
Opportunistic observations on the presence of feral animals will also be noted during annual internal environmental audits.	Section 4.2	Interview - Environment Manager	Annual internal audit not completed during audit period	NA	
Depending upon the type of pest identified, specific management programs will be implemented to manage and control pest infestations.	Section 4.2	Interview - Environment Manager	One rat and mouse now detected - no other sightings during audit period. Management of waste is expected to keep feral animal numbers down.	C	
Species Management					
<i>Earps Gum</i>					
Clearing of trees on the southern boundary and around the access road near the "S" bend will be avoided where reasonably practicable.	Section 5.1	Site Inspections Interview - Environment Manager	No clearing of vegetation observed in area during audit period.	C	
Some clearing of juvenile species maybe require in order to maintain the asset protection zone.	Section 5.1	Site Inspections Interview - Environment Manager	No clearing of vegetation observed in area during audit period.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
General weeding when infestations are observed.	Section 5.1	Interview - Environment Manager Site Inspections	Klienfelder's have been engaged to complete weed control activities 6 monthly. Site inspections indicate weeds are managed effectively	C	
<i>New Holland Mouse</i>					
Disturbance of land to the east and south east of the gas plant to be avoided unless necessary for maintenance or emergency purposes.	Section 5.1	Site Inspections Interview - Environment Manager	No disturbance of land to east and south east observed in area during audit period.	C	
<i>Koala</i>					
Land disturbance and tree clearing to be avoided where reasonably practicable.	Section 5.1	Site Inspections Interview - Environment Manager	No clearing of vegetation observed in area during audit period.	C	
Fencing around the site perimeter to be Koala friendly. Fencing should consist of post and wire.	Section 5.1	Site Inspections Interview - Environment Manager	Fencing around site koala friendly i.e. post and wire	C	
Speed limit along the access road into site is 50km/h. This speed limit, for the purposes of reducing Koala fatalities, is appropriate due to the low traffic volumes, excellent road verge vision, road alignment (straight) and wide road verges.	Section 5.1	Site Inspections Interview - Environment Manager	Signage along road indicates speed limit is 60km/h until near approach to site which consist of bends in the road - the speed limit in this area is reduced to 40km/h.	ANC	Consider aligning the plan to the final speed limit adopted for the site.

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Offset Management					
For the first five years annual monitoring of the offset site will be undertaken to measure the performance and condition of the site. After five years, frequency of monitoring will be reviewed and, depending upon the outcome of the review, revised.	Section 6.2	Interview - Environment Manager Biodiversity Offset Package	Two offset sites have been selected however; conservation agreements have yet to be signed. Annual monitoring to be completed once agreements signed.	NA	
Complementing the annual monitoring review will be the development of an annual monitoring report. The report will provide the basis for future management and monitoring of the site. The report will summarise conservation works, ecological value condition, changes occurring, effectiveness of management actions and recommendations for additional management actions.	Section 6.2	Interview - Environment Manager Biodiversity Offset Package	Two offset sites have been selected however; conservation agreements have yet to be signed. Annual monitoring to be completed once agreements signed. Annual report to be completed thereafter.	NA	
Training and Competence					
Senior management, including operation supervisors, will be informed of their flora and fauna responsibilities.	Section 7.2	Induction slide pack	Slide included which outlines responsibilities regarding fauna management appropriate to the scale of activities and operations.	C	
Monitoring					
Inspections will be undertaken if specific concerns are raised with regard to pest infestations or flora and fauna management measures. Employees will be encouraged to report environmental incidents or near misses in regard to flora and fauna management.	Section 8.1.1	Interview - Environment Manager Site Inspections	Two sightings of pest animals and one for a lace monitor which have all been reported to the Environment Manager and recorded on the visual board located in the control room. Requirement for additional inspections not identified during audit period.	C	

Annex C

Audit Table - Operations Water Management Plan

Table C.1 Compliance Assessment –Implementation of the Operations Water Management Plan

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Operational Water Management Plan Commitments					
<i>Groundwater Management</i>					
Environmental Management Activities and Controls					
Chemicals to be contained within a dedicated area and bunded.	Section 5.1 Section 6.1	Site inspections	Minor quantities of chemicals on site - noted during inspections that all chemicals are stored within bunded areas/cabinets.	C	
Chemical inventory on site will be kept to minimum practical levels.	Section 5.1 Section 6.1	Site inspections	Minor quantities of chemicals noted on site during inspections	C	
Electricity substation transformers to be bunded to 110% capacity of the transformer oil tank.	Section 5.1 Section 6.1	Site inspections	Bund has 110% capacity. In addition, area drains to process sump which has capacity of 330kL.	C	
Roadways to be sealed and water runoff diverted to the storm water management system.	Section 5.1 Section 6.1	Site inspections	Roadways confirmed sealed during site inspection.	C	
Storm water is directed to the water holding pond.	Section 5.1 Section 6.1	Site inspections	Confirmed - site has kerb and guttering installed which diverts all water other process sump, LNG tank sump before discharge to the holding pond.	C	
All site visitors and staff will be inducted and made aware of all relevant environmental issues.	Section 5.1 Section 6.1	Visitor induction	Visitor induction includes relevant environmental aspects including waste management.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Information on how to respond to spills and the sensitivities of the surrounding environment will be included in induction materials.	Section 5.1 Section 6.1	Induction slide packs Module 1 (general), Module 2 (NGSF Visitors Induction) and Module 3 (Workers Induction)	Spills and risk to groundwater included in induction.	C	
Spill kits to be provided at key locations (e.g., near high risk spill locations such as the warehouse).	Section 5.1 Section 6.1	Site Inspections	Spill kits located around site near areas of chemical use/storage including process areas and maintenance building.	O	Consider including location of spill kits in induction slide concerning spills.
Table 5: Monitoring Summary. Groundwater monitoring to be completed six monthly and the results sent to HWC and NOW within six weeks of the water quality monitoring event. 11 existing bores to be monitored (MW15 to be replaced with MW19). Three existing surface water sites are also tested (SW3, SW4 and HP01).	Section 5.1.1	Gas Storage Site Construction Groundwater and Surface Water Monitoring Program Newcastle Gas Storage Facility Project March 2015 Quarterly Report (GW&SWMR, March 2015)	September 2015 last monitoring round however results not available at time of audit. March 2015 results reviewed. 11 bores sampled. MW15 still sampled - MW19 not installed this monitoring round	C	
Groundwater monitoring will occur at six monthly intervals for the first two years of the NGSF operation. After the initial two years, the monitoring program will be reviewed.	Section 5.1.3 Section 8.1	Interview - Environment Manager	September 2015 last monitoring round however results not available at time of audit.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
<p>The groundwater monitoring network is comprised of 11 monitoring bores as shown in Table 6. MW15 (located to monitor potential seepage from the temporary, construction phase, septic facilities) will be decommissioned in mid-2015 and replaced with MW19 (located to monitor potential seepage from the permanent, operational phase, septic facilities).</p>	Section 5.1.3	GW&SWMR, March 2015	<p>March 2015 results reviewed.</p> <p>11 bores sampled.</p> <p>MW15 still sampled - MW19 not installed this monitoring round</p>	C	
<p>For each groundwater monitoring event, field water quality measurements will be recorded including field pH, electrical conductivity (EC), redox potential, temperature and dissolved oxygen. Groundwater samples will be sent to a NATA accredited laboratory, for analysis of:</p> <ul style="list-style-type: none"> › General parameters - total suspended solids (TSS), total dissolved solids (TDS) and EC; › Major cations - calcium, magnesium, potassium and sodium; › Major anions - alkalinity, chloride, sulphate and fluoride; › Dissolved metals - arsenic, cadmium, chromium, copper, lead, nickel, zinc and iron; › Total petroleum hydrocarbons (TPH), benzene, toluene, ethyl benzene and xylenes (BTEX); › Nutrients - total nitrogen, total kjeldahl nitrogen (TKN), nitrate, nitrite and total phosphorus; and › Pathogens (total coliforms, faecal coliforms and Escherichia coli) (at locations MW19 and MW14 only) 	Section 5.1.3	GW&SWMR, March 2015	<p>September 2015 last monitoring round however results not available at time of audit. March 2015 results reviewed.</p> <p>All listed parameters tested including volatile and semi-volatile organic compounds (VOCs/SVOCs), including glycols. These were tested to compare with the baseline concentrations now that construction activities have been completed.</p>	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Adopted Groundwater Thresholds					
Groundwater quality results from the monitoring program described in this OWMP will be compared against the adopted thresholds (as shown in Appendix A).	Section 5.2	GW&SWMR, March 2015	September 2015 last monitoring round however results not available at time of audit. March 2015 results reviewed. All parameters below threshold values.	C	
The adopted thresholds will be reviewed every two years from May 2016, and will take into account the ENSO status. Revisions of the adopted threshold values would be undertaken with consultation with NOW and HWC.	Section 5.2 Section 8.1	GW&SWMR, March 2015	Results to be reviewed in 2016.	NA	
The results of the groundwater monitoring program will be analysed using the exponentially weighted moving average (EWMA), which is an effective method for identifying trends.	Section 5.2	GW&SWMR, March 2015	March 2015 results reviewed. Since construction began at the site in September 2012 the following trends are shown in the EWMA graphs: <ul style="list-style-type: none"> Increases in electrical conductivity values in MW6; Increases in total nitrogen concentrations for MW2, MW3A, MW4, MW6 and MW7; Increases in total phosphorous concentrations for MW3A, MW4 and MW7; and Increases in pre silica gel clean up TRH C10-C36 MW2, MW6 and MW7 show an increase in naturally occurring polar organic compounds. EWMA graphs only completed for MW1-MW7	NC	Consider developing EWMA's for all GW bores..

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Exceedance of Groundwater Quality Threshold					
Should groundwater water quality results exceed the adopted threshold value for a particular analyte at a particular monitoring point, the response action process shown in Figure 5 would be followed	Section 5.3	GW&SWMR, March 2015	All parameters below threshold values	NA	
Surface Water Management					
Environmental Management Activities and Controls					
For the operational NGSF, there are three surface water sites that will be monitored: the main holding pond in the constructed wetland (HP01), and upstream and downstream of the stormwater discharge location	Section 6.1.1	GW&SWMR, March 2015	March 2015 sample round includes locations	C	
Surface water monitoring will occur at six monthly intervals for the first two years of the NGSF operation. After the initial two years, the monitoring program will be reviewed.	Section 6.1.3 Section 8.1	GW&SWMR, March 2015	Noted	C	
For each sampling event, field water quality measurements will be recorded including field pH, electrical conductivity (EC), redox potential, turbidity, temperature and dissolved oxygen. Samples will be sent to a NATA accredited laboratory, for analysis of: <ul style="list-style-type: none"> › General parameters - total suspended solids (TSS), turbidity, total dissolved solids (TDS) and EC; › Major cations - calcium, magnesium, potassium and sodium; › Major anions - alkalinity, chloride, sulphate and fluoride; 	Section 6.1.3	GW&SWMR, March 2015	March 2015 results reviewed. All listed parameters tested.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
<ul style="list-style-type: none"> › Dissolved and total metals – arsenic, cadmium, chromium, copper, lead, nickel, zinc and iron; › Total petroleum hydrocarbons (TPH), benzene, toluene, ethyl benzene and xylenes (BTEX); and › Nutrients – total nitrogen, total kjeldahl nitrogen (TKN), nitrate, nitrite and total phosphorus. 					
Adopted Surface Water Thresholds					
Surface water quality results from the monitoring program described in this OWMP will be compared against the adopted thresholds (as shown in Appendix B).	Section 6.2	GW&SWMR, March 2015	March 2015 results reviewed. All parameters below adopted thresholds.	C	
The results of the surface water monitoring program will be analysed using the exponentially weighted moving average (EWMA), which is an effective method for identifying trends. EWMA plots will be included in the six monthly monitoring reports.	Section 6.2	GW&SWMR, March 2015	March 2015 results reviewed. EWMA graphs only completed for MW1-MW7	NC	Consider developing EWMA's for SW locations.
Exceedance of Surface Water Quality Threshold					
Should surface water quality results exceed the adopted threshold value for a particular analyte at a particular monitoring point, the response action process shown in Figure 5 would be followed.	Section 6.3	GW&SWMR, March 2015	March 2015 results within criteria	NA	
Spill Response					
In the event of a significant spill (a spill deemed to cause or have the potential to cause material environmental harm as defined by Section 147 of the Protection of the Environment Operations Act 1997) on-site, AGL will implement the Pollution Incident	Section 7.1	Incident register	All spills within banded/sealed areas during audit period.	NA	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Response Management Plan and Emergency Response Plan.					
Illegal Dumping					
Security of the site will be maintained to prevent third parties gaining unlawful access to the site.	Section 7.2	Site Inspections	Site has fencing around site and security gate at entrance.	C	
If evidence of illegal dumping of wastes on the project area is observed the dumped material will be removed immediately	Section 7.2	Site Inspections Interview - Environment Manager	No illegal dumping of wastes reported during audit period.	C	
If visual evidence of liquid or chemical waste is observed then sampling and monitoring will be implemented to assess potential and/or actual impact to groundwater or surface water.	Section 7.2	Interview - Environment Manager	All spills within bunded/sealed areas during audit period.	NA	
Reporting					
Audit of compliance against the conditions of approval, as well as other approvals, licences and consents to be completed May 2016 and every two years thereafter.	Section 8.1	Interview - Environment Manager	Noted - six monthly compliance report to be completed February 2016	NA	
Report to the NOW, HWC, PSC of monitoring results, including discussion of trends to be submitted within six weeks of each monitoring round	Section 8.1	Email 12/05/2015 to HWC, PSC, NOW Email 12/05/2015 to EPA	Emails forwarding May 2015 report for March monitoring round completed.	C	
Review the OWMP May 2016 and every two years thereafter during NGSF operation	Section 8.1	Interview - Environment Manager	Noted	NA	
Review of groundwater monitoring network May 2016 and every two years thereafter during NGSF operation OR prior to major development at neighbouring properties	Section 8.1		Noted - to be completed	NA	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Compliance and Review					
AGL will undertake an internal audit within 12 months of operations commencing, with subsequent audits undertaken every two years thereafter.	Section 10.1	Interview - Environment Manager	Noted - to be completed	NA	

Annex D

AGL Audit Response and Action Tables

Table D.1 AGL Audit Response and Action Table - Pre Operations Audit

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action	Due Date
<i>Minister's Conditions of Approval MP10_0133</i>					
A14	The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation or rehabilitation of the project.	<p>Section 5.4 of the OEMP commits to quarterly audits of compliance against CoA and other approvals, licences and consents.</p> <p>Section 6.2 of the OEMP commits to an audit within 12 months of commissioning and then every two years thereafter.</p> <p>Align the frequency of internal auditing in Sections 5.4 and 6.2</p>	O	Revised Table 5-2. Reference to quarterly audits and fortnightly project meetings deleted.	Completed
A15	The Proponent shall notify the Director-General and any other relevant agencies of any incident associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within seven days of becoming aware of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident.	<p>OEMP refers to Emergency Plan and Safety Management system (could not find reference). Section 4.2 lists Environmental Management Documents which includes reference to compliance tracking programme which includes need to report environmental incidents (timing not included).</p> <p>Consider adding in notification requirements into Section 5.5 of the OEMP to clarify reporting requirements for environmental incidents.</p>	O	Incident, as defined in the conditions of approval, is one that causes or has the potential to cause material environmental harm. Due to the similar wording as the POEO Act triggers, the OEMP has been revised to include a section on incidents with a reference to AGL MyHSE system and the Pollution Incident Response Management Plan (PIRMP). Previous section referring to safety and environment management plan in the OEMP has been deleted. NGSF PIRMP has also been updated to include DoPE on the notification list.	Completed

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action	Due Date
C3	<p>During operation, the Proponent shall store and handle all dangerous goods, as defined by the Australian Dangerous Goods Code, strictly in accordance with:</p> <p>(a) all relevant Australian Standards; and</p> <p>(b) DECC's Environment Protection Manual Technical Bulletin – Bunding and Spill Management.</p> <p>In the event of an inconsistency between the requirements listed from (a) to (b) above, the most stringent requirement shall prevail to the extent of the inconsistency</p>	<p>Section 2.2 of the Emergency Plan lists types and quantities of dangerous goods. Does not list relevant AS and appropriate measures required for the material under the AS.</p> <p>Include the table of DGs with type, quantities, relevant AS and identification of appropriate measures required for the management of the material under that standard into the OEMP or appropriate support plan.</p>	O	Waiting to hear back from owner's engineer and CB&I.	ASAP
C15	<p>Prior to the commencement of operation of the project, the Proponent shall arrange for and implement a Flood Emergency Response Plan. The Plan shall be prepared by an independent, qualified flood engineer experienced in flood management. The Plan shall be updated and maintained where appropriate and include an education and awareness component for the workforce and detailed evacuation procedures to interface with the Bureau of Meteorology's flood warning system and the local State Emergency Services Plan (where appropriate) and to include provisions for any third parties likely to be involved. Consideration shall include the full range of flood risks (including climate change associated risks), the proposed use of the site, site access constraints and local area evacuation routes to high ground.</p>	<p>Department of Environment, Climate Change and Water (2009), 'Draft Coastal Risk Management Guide; Incorporating Sea Level Rise Benchmarks in Coastal Risk Assessments referenced with Probable Maximum Flood (PMF), extreme event in the context of past studies of Lower Hunter River flooding only considered.</p> <p>Indicate in main plan where climate change associated risks have been considered and addressed.</p>	O	<p>According to the Flood Emergency Response Plan, the NGSF has been constructed to a level higher than 6.0 mAHD, which provides at least 1.5 metres freeboard above the peak 100 year ARI flood level of 4.5 mAHD shown in Appendix F Figure 2. According to the DECCW document referenced, sea level rise is projected to be 0.4m by 2050 and 0.9m by 2100.</p> <p>Therefore, the design of the plant has incorporated climate change allowing for a greater freeboard than currently advocated as what should be allowed for.</p>	Completed

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action	Due Date
C23	To avoid any doubt, the Groundwater Management Plan and the Surface Water Management Plan required under condition B57 shall continue to be applied during operation.	<p>OEMP has been developed to meet Approval Condition B25, B57(c) & (d) and C23. Developed in consultation with NOW, HWC and EPA.</p> <p>The groundwater monitoring bore GW15 is listed in the plan as being decommissioned, however it is understood that the temporary septic tank will remain in place in case of any future project works which require temporary offices. Consider removing from the monitoring list but leave the monitoring bore in place for any future use of the septic tank at this location.</p>	O	Monitoring bore is to be de-listed as a monitoring point, but will stay in place.	Completed
<i>Statement of Commitments</i>					
120	Trim vegetation where possible rather than removing it.	OEMP and supporting plans do not currently include commitment. Commitment to be added to OEMP	ANC	<p>The commitment made to the trimming of trees was made in the context of construction related activities (refer to Section 9.4.1 of EA under sub-heading "Construction", reference is also made in section 7.5.4, but again construction related).</p> <p>As the facility has been constructed removal of trees will only occur as part of maintenance for the asset protection zones around the site and clearance requirements for powerlines and gas pipelines.</p>	Completed

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action	Due Date
				In which case removal of re-growth will be unavoidable. Management of vegetation on site has been further explained in a new "Flora and Fauna Management Plan" attached to the OEMP.	
135	Develop and implement comprehensive CEMP and OEMP. These documents will include detailed information about significant flora and fauna species, their management and on-going conservation recommendations.	Currently not included in the OEMP or sub plans. OEMP to be amended to include this commitment.	ANC	Addressed in new Flora and Fauna Management Plan	Completed
160C	The CEMP and OEMP will include vegetation and weed management plans to prevent spread of weed species and ensure avoid disturbance on quality and functioning of sensitive ecological communities	Commitment currently not included in the OEMP. OEMP to be amended to include commitment	ANC	Addressed in new Flora and Fauna Management Plan	Completed
168	Fencing around pipeline easements within Lot 105 will be in accordance PSC's Koala Plan of Management to ensure Koala movement beyond the Project area	Fencing for Lot105 has been specified by WorleyParsons in detailed design work. Permanent fencing four wire rural fence in project area. Consider including in the OEMP fencing requirement for the site in case of future works/fencing needs replacement.	O	Addressed in new Flora and Fauna Management Plan	Completed
169	Speed limits along the access road and utility corridor will be in accordance with PSC's Koala Plan of Management to minimise injury or death to koalas and other wildlife	Operations speed limit 50km/h. PSC states speed limit to be 40km/h - raised as NC during audit.	NC	No additional action required. No Koalas have been sighted and no incidents have occurred involving Koalas.	Completed

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action	Due Date
		<p>The PSC KPoM notes that “where appropriate” motor vehicle speeds to be restricted to 40 kph or less. In the context of the NGSF, it will have low traffic flows; excellent vision due to road alignment (straight) and the entry road and road verge are wide and well maintained. AGL considers a lower speed limit is not appropriate, nor warranted.</p> <p>Consider reviewing speed limits if koala activity is noted in the area or a near-hit/incident occurs with any fauna along the road.</p>		Additionally, this has also been addressed in new Flora and Fauna Management Plan	
265	Noise emissions will be confirmed for equipment and infrastructure (including low frequency noise) during detailed design when final specifications are known. The potential for high-flow gas flaring at the gas plant site will be reviewed and noise assessment may be required to determine impacts of noise associated with high-flow gas flaring.	<p>Noise associated with high-flow gas flaring not include in current plan. Include the need to monitor noise during a high-flow gas flaring event to determine impacts into the NMP.</p> <p>Low flow flare monitoring completed by CB& I.</p>	ANC	Waiting to hear back from owner’s engineer and CB&I	ASAP
303	Monitoring of the Project emissions will be in accordance with current AGL practice. Emissions of pollutants are reported annually in the National Pollution Inventory (NPI).	Plan does not currently include requirement to report under NPI (Section 2). Currently enforced under <i>Protection of the Environment (General) Regulation 2009</i> . Include the requirement to report under NPI in Section 2.	ANC	Review of the proposed NGSF operation performance against the NPI substance and threshold list indicates that the NGSF will not trigger NPI reporting obligations. A new section 2.2.3 to the OEMP has been added as well as a commitment to review changes to the NPI.	Completed

Item No	Assessment Requirement	Comment	Audit Classification	Response/Action	Due Date
310	Establish measureable greenhouse gas emission reduction targets.	OEMP does not include GHG reduction targets. OEMP to include GHG reduction targets.	NC	A new section 3.4 added to the Air Quality Sub-Plan	Completed
315	Develop an emergency response plan that will coordinate procedures with the Tomago Aluminium Smelter, other adjacent industrial facilities and any local emergency planning groups, fire brigades, state and local police and appropriate government agencies. This plan will include: a) Procedures for notifying businesses, residents and recreational users within areas of potential hazard;	Section 5.7 includes flow chart for initial communications protocol. Other contacts table includes nearest neighbours with exception of Tomago Village Van Park. Consider including contact details of Tomago Village Van Park and any other business/residents that may be impacted by an incident.	O	The development of the ERP was developed in consultation with TAC, Ausgrid, Jemena, FRNSW, RFS NSW, Police, ambulance and all consulted members were involved in a table top exercise was carried out on the ERP. The risk to the Tomago Village Van Park was determined to be negligible and therefore, has not been included.	Completed
344	AGL will continue to consult with all relevant agencies through the detailed design and operation phases of the Project.	Quarterly meetings of the NGSF Community Consultative Committee - includes representatives from PSC, NCC, HWC. Consider including in Section 5.3.3 any planned meetings with EPA and NOW.	O	Meetings with the NSW Office of Water, Hunter Water Corp and Council have been included.	Completed

Table D.2 AGL Audit Response and Action Table - OEMP Implementation Audit (Table 3.2 Findings)

Section	Assessment Requirement	Comment	Audit Classification	Response/Action	Due Date
<i>Operations Management Plan Commitments</i>					
5.4	Quarterly - Report to NGSF Community Consultative Committee Report on environmental and other performance to Community Consultative Committee	<p>Last minutes on website dated 5 November 2014.</p> <p>Meeting held 4 February 2015 - minutes sighted. Indicates meetings to be completed 6 May 2015 and 4 November 2015. Minutes not available</p> <p>Community Engagement Plan indicates in Section 1.3 that it will be reviewed in the lead up to the operational phase of the project.</p> <p>Community Engagement Plan and OEMP to be updated to reflect current methods of informing the community regarding operational issues.</p> <p>CCC minutes to be uploaded to website.</p>	ANC	<p>Draft minutes have been developed and circulated. Finalised minutes will be available by 23 December 2015.</p> <p>No further CCC meetings are planned.</p>	23/12/2015
6.1	Site inspections are to be undertaken weekly and following significant rainfall events.	Check sheets do not currently include checks for erosion as no longer applicable in operations phase as all work areas sealed/hardstand. Water in the sumps and wetlands are checked for pH, TDS, EC and visual pollutants with results sent to Environment Manager for approval prior to discharge of water from the site.	ANC	Periodic inspection of rehabilitated areas are undertaken by the site Environment Manager. Any issues regarding the stability of the site are recorded in AGL's myHSE system and actioned.	Completed

Section	Assessment Requirement	Comment	Audit Classification	Response/Action	Due Date
6.1	Monitoring for glycol leaks is to be undertaken through visual inspections by operators for leaks and levels of glycol in the equipment. Glycol inspection requirements are to be included in standard operating procedures (SOPs).	<p>Amend plan to reflect actual activities</p> <p>Daily checks are completed but not recorded. Weekly check sheets include checks for glycol leaks.</p> <p>SOP not developed.</p> <p>Daily checklist to be developed which will include checks for glycol leaks.</p>	ANC	<p>Daily checks are undertaken at the site for operability of plant and equipment. During those inspections any failures of glycol or other systems will be identified and work order raised through MEX (NGSF maintenance system).</p> <p>AGL to investigate requirement for SOP as a daily inspection check sheet may be sufficient. OEMP obligation to be reviewed.</p>	Next OEMP revision
<i>Noise Management Plan Commitments</i>					
4.2	<p>The site induction will include a noise management component. Examples of noise management topics that may be covered during the project induction include:</p> <ul style="list-style-type: none"> • Location of noise sensitive areas. • Operational activities likely to generate significant noise. • Noise management measures. • Responsibilities of personnel with regard to noise management. 	<p>Location of noise sensitive areas, operational activities likely to generate significant noise and noise management measures not currently include in induction.</p> <p>Consider including all noise aspects as per the OEMP into the induction.</p>	ANC	<p>The OEMP notes example of what 'may be' covered in an induction.</p> <p>Induction materials include specific reference to noise management, in particular, reference is made to the EPL. In addition, the induction notes that if plant is not operating efficiently or you observe plant or equipment creating excessive noise, report it immediately so the plant or equipment can be inspected.</p> <p>AGL to review this obligation in the OEMP and amend to reflect actual noise impacts.</p>	Next OEMP revision

Section	Assessment Requirement	Comment	Audit Classification	Response/Action	Due Date
<i>Air Management Plan Commitments</i>					
3.2	Condition of Approval C12 for the project included maximum allowable air discharge limits at two discharge points within the gas plant. These discharge limits are included in Table 3-1. The monitoring locations are shown on Figure 2.	There are 4 monitoring points instead of two (one for the stack associated with the Gas Liquefaction system (Point 9) and three for the Regassifier of LNG vaporiser (point 4). Variation to the EPL to be completed – currently in the process of being drafted. EPA is aware of the issue.	NC	Additional air discharge stacks have been discussed with the EPA. AGL is in the process of preparing a section 58 variation for the monitoring locations.	January 2016
<i>Waste Management Plan Commitments</i>					
3.1	<p>Waste generated during operation of the project will be managed in accordance with the waste management hierarchy:</p> <ul style="list-style-type: none"> • Reduce. • Re-use. • Recycle. • Dispose. <p>Waste reduction and reuse strategies will be implemented where practical and cost effective.</p> <p>Recycling initiative will be implemented where possible.</p>	Waste volumes not currently tracked in the waste register. Consider tracking the volumes of wastes disposed off-site to identify dominant waste streams and opportunities for further recycling.	O		

Section	Assessment Requirement	Comment	Audit Classification	Response/Action	Due Date
3.1	All wastes will be classified in accordance with the Waste Classification Guidelines (DECC 2008). As per the Waste Classification Guidelines, some wastes have been “pre-classified”; therefore sampling and confirmation of the waste is not required. Wastes outside of the scope of pre-classified waste will need to be tested to confirm its waste classification.	Guidelines were updated in November 2014 therefore the plan should be updated accordingly.	ANC	Waste sub-plan does note that all waste will be classified in accordance with the Waste Classification Guidelines (DECC 2008, or any future guideline that may supersede that document) Waste management sub-plan to be updated during the next review cycle. No impact from the change in guideline has been identified.	
3.2	Batteries - off-site disposal at an approved facility	Lead acid batteries are classified as a Dangerous Good under the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code) – UN No. 2794, Class 8 (corrosive). Consider including the requirement to take batteries to a recycling facility into the Waste Management Plan (WMP) and highlight in WMP batteries cannot be placed in general solid waste bins.	O		
4.2	The site induction will include a waste management component. Examples of waste management topics that may be covered during the project induction include: <ul style="list-style-type: none"> • Waste storage and segregation. • Waste disposal and recycling. 	All aspects included. Consider including in the induction list of hazardous wastes produced by the site and the disposal locations.	O		

Section	Assessment Requirement	Comment	Audit Classification	Response/Action	Due Date
	<ul style="list-style-type: none"> Waste reporting. Responsibilities of personnel with regard to waste management. 				
5.3.2	Waste dockets / receipts / manifests will also be retained to record the date of waste removal, the waste transport contractor and the waste destination	<p>Amine impacted water transported from site with receipt sighted. Amine filters removed from site 8 October 2015. Tracking certificate forwarded to site after collection</p> <p>Consider directing site staff to collect receipts from waste contractors prior to leaving site.</p>	ANC		
5.3.3	<p>The following records relating to waste management are to be maintained:</p> <ul style="list-style-type: none"> Waste tracking register. Waste dockets / receipts / manifests from landfills, recycling facilities and waste contractors. Letters regarding waste classifications, general resource recovery exemptions or suitability of material to be re-used on site. Records of weekly site inspections 	<p>Weekly site inspections do not currently include checks for waste.</p> <p>Consider the addition of checks for general waste management on the operator weekly checklist.</p>	ANC		

Section	Assessment Requirement	Comment	Audit Classification	Response/Action	Due Date
5.3.4	<p>Waste materials are to be tracked so that the appropriate management of wastes can be demonstrated.</p> <p>A register containing the following information must be kept:</p> <ul style="list-style-type: none"> The material type and volume. 	<p>Hazardous wastes actual volumes not tracked in the waste register.</p> <p>General and solid waste volumes are not currently recorded in the register. The waste contractor sends a monthly report summarising waste volumes.</p> <p>Consider tracking the volumes of wastes disposed off-site to identify dominant waste streams and opportunities for further recycling. Also consider recording the waste certificate numbers for the trackable wastes.</p>	ANC	AGL receives monthly waste quantities broken down into waste streams.	
<i>Operational Traffic Management Measures</i>					
Table 1	Establish operational speed limits at the gas plant site and the HRS site.	<p>Reported that speed limit is 10km/h whilst on site. Signs and documentation of speed limit not sighted.</p> <p>Consider the inclusion of the site speed limit on the induction slide pack and the relevant SOPs.</p>	O	Induction package includes an obligation for all traffic and speed signs to be obeyed.	Completed

Section	Assessment Requirement	Comment	Audit Classification	Response/Action	Due Date
<i>Flora and Fauna Management Plan Commitments</i>					
5.1	Speed limit along the access road into site is 50km/h. This speed limit, for the purposes of reducing Koala fatalities, is appropriate due to the low traffic volumes, excellent road verge vision, road alignment (straight) and wide road verges.	Signage along road indicates speed limit is 60km/h until near approach to site which consist of bends in the road – the speed limit in this area is reduced to 40km/h. Consider aligning the plan to the final speed limit adopted for the site.	ANC	A 60km/h speed limit for the access road has been assessed as being appropriate for the site. The Flora and Fauna Management Plan will be updated to reflect this.	OEMP to be updated
<i>Operations Water Management Plan Commitments</i>					
5.2	The results of the groundwater monitoring program will be analysed using the exponentially weighted moving average (EWMA), which is an effective method for identifying trends.	EWMA graphs only completed for MW1-MW7. Consider developing EWMA's for all GW bores.	NC	AGL has recently changed water sampling contractors. AGL is in discussions with the new contractor to ensure that EWMA are prepared for each groundwater monitoring location for subsequent reports.	Next monitoring round
5.1 and 6.1	Spill kits to be provided at key locations (e.g., near high risk spill locations such as the warehouse).	Spill kits located around site near areas of chemical use/storage including process areas and maintenance building. Consider including location of spill kits in induction slide concerning spills.	O		Next monitoring round
6.2	The results of the surface water monitoring program will be analysed using the exponentially weighted moving average (EWMA), which is an effective method for identifying trends. EWMA plots will be included in the six monthly monitoring reports.	EWMA graphs only completed for MW1-MW7. Consider developing EWMA's for SW locations.	NC	AGL has recently changed water sampling contractors. AGL is in discussions with the new contractor to ensure that EWMA are prepared for each groundwater monitoring location for subsequent reports.	

Annex E

Site Inspection Report



Photograph: 1 | Speed limit sign prior to bends in Main Access Road



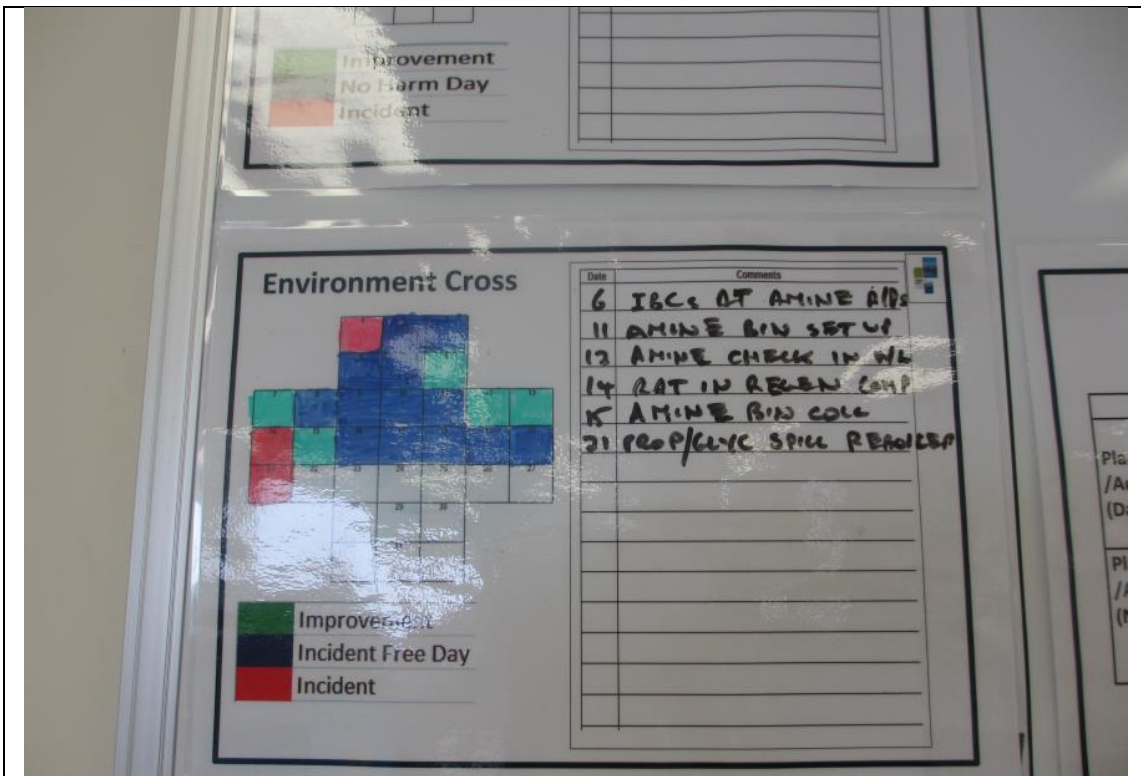
Photograph: 2 | Rehabilitated area in front of administration building



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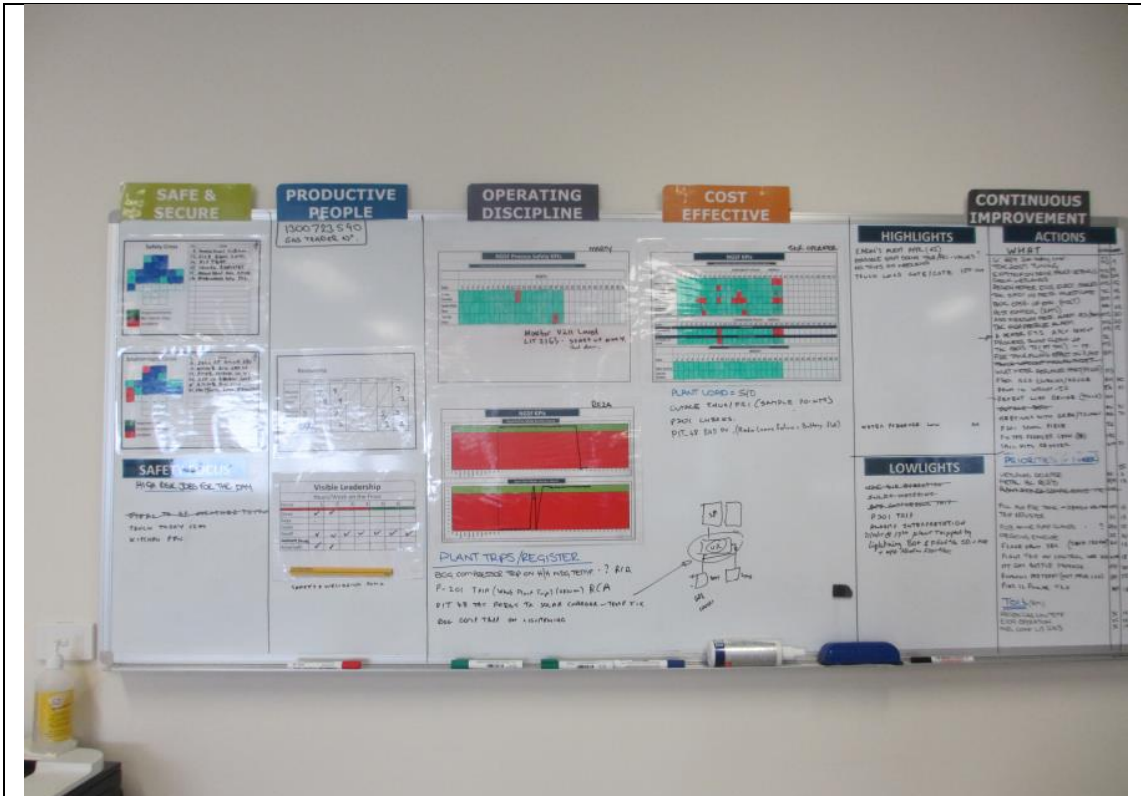


Photograph: 3 Recycling bins located in the crib room – administration building.



Photograph: 4 Visual board located in the control room highlighting environmental aspects and events





Photograph: 5 Visual board located in control room with all aspects including environment (Safe & Secure)



Photograph: 6 Leak of propylene glycol from amine reboiler – contained within bund



Photograph: 7 Amine filter bins, general waste bins and spill kits located in the process area



Photograph: 8 Amine leak from pump contained within IBCs which are stored on bund trays to contain any drips.





Photograph: 9 | General waste bin and spill kit located in process area



Photograph: 10 | Skip bins for general, recycling and paper/cardboard recycling



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Photograph: 11 | Site is noted to be generally neat and tidy



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