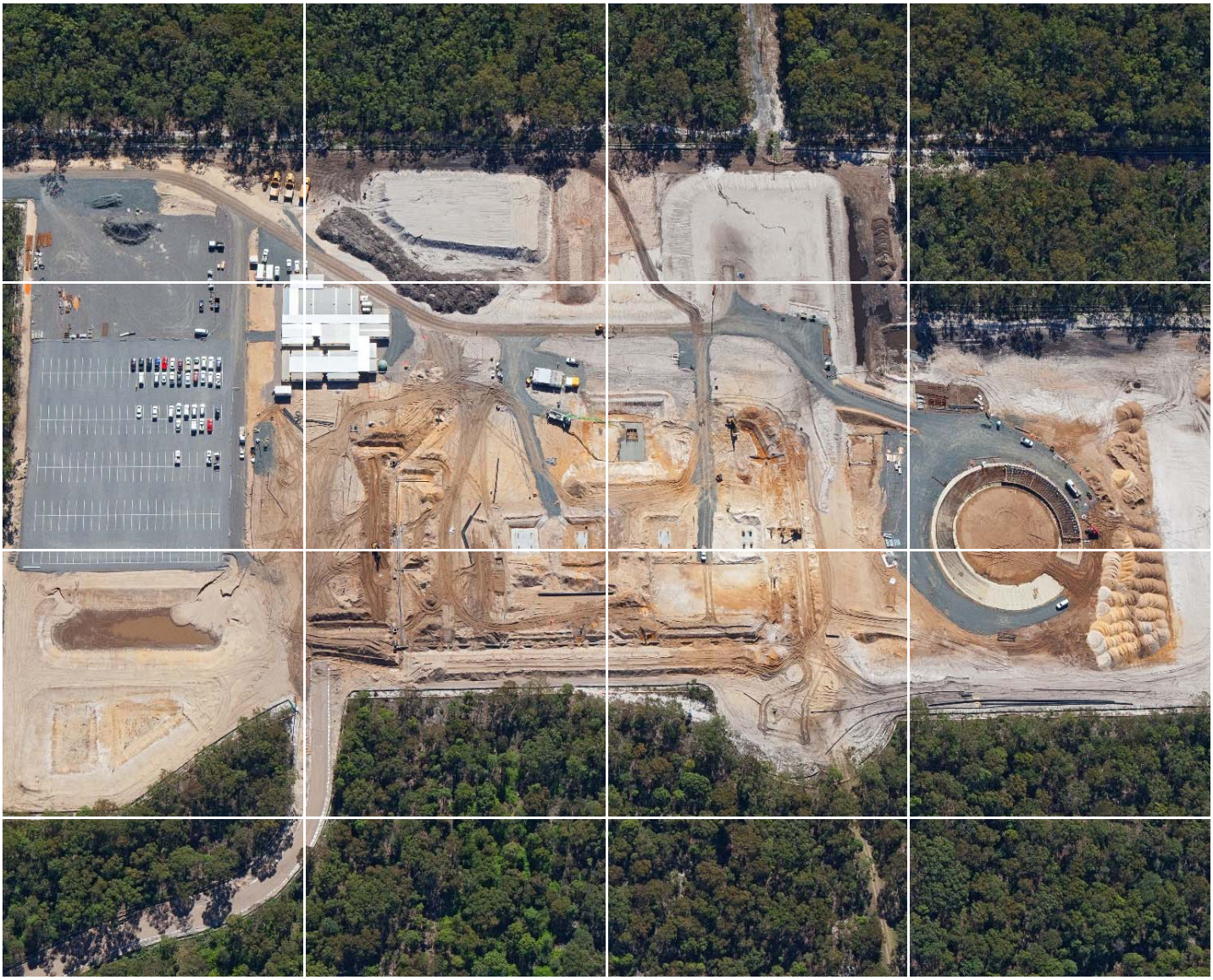

Newcastle Gas Storage Facility

4th Quarter Audit - September 2013

AGL Energy Limited No

November 2013

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FINAL REPORT

AGL Energy Limited

Newcastle Gas Storage Facility

4th Quarter Audit - September 2013

November 2013

Reference: 0169504

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Newcastle Gas Storage Facility

4th Quarter Audit – September 2013

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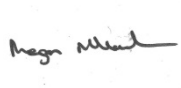
Signed:	
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AGL Energy Limited

November 2013

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CONTENTS

1	INTRODUCTION	
1.1	PROJECT DESCRIPTION	1
1.2	AUDIT OBJECTIVE	2
1.3	AUDIT SCOPE	2
1.4	AUDIT CRITERIA	2
1.5	LIMITATIONS OF THIS REPORT	3
2	AUDIT METHODOLOGY	
2.1	METHODOLOGY AND PROCESS	4
2.2	CLASSIFICATION OF AUDIT FINDINGS	5
3	AUDIT FINDINGS	
3.1	PREVIOUS AUDIT FOLLOW-UP	6
3.1.1	2ND QUARTER AUDIT REPORT	6
4	CONCLUSION	

ANNEX A	AUDIT TABLE - GROUNDWATER MANAGEMENT SUB PLAN
ANNEX B	AUDIT TABLE – WASTE MANAGEMENT SUB PLAN
ANNEX C	AUDIT TABLE – NOISE AND VIBRATION MANAGEMENT SUB PLAN
ANNEX D	AUDIT TABLE – AIR QUALITY MANAGEMENT SUB PLAN
ANNEX E	AGL AND CBI AUDIT RESPONSE AND ACTION TABLE – 4TH QUARTER AUDIT
ANNEX F	AGL AND CBI AUDIT RESPONSE AND ACTION TABLE – PREVIOUS AUDIT

LIST OF TABLES

TABLE 3.1	PREVIOUS AUDIT FINDINGS: SUMMARY OF ACTIONS OUTSTANDING	6
TABLE 3.2	SUMMARY OF NON CONFORMANCES AND IMPROVEMENT OPPORTUNITIES	8

EXECUTIVE SUMMARY

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned to perform a quarterly audit (fourth quarter) for the Newcastle Gas Storage Facility (NGSF) on behalf of AGL Energy Limited (AGL). The primary purpose of the audit was to satisfy the Department of Planning and Infrastructure (DoPI) 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 following plans:

- *Groundwater Management Sub Plan;*
- *Waste Management Sub Plan;*
- *Noise and Vibration Management Sub Plan; and*
- *Air Quality Management Sub Plan.*

The Contractor has established the control systems generally required for a project of this nature, and all staff interviewed demonstrated an understanding of requirements and a commitment to the application of the management systems.

Overall a high standard of compliance was noted achieved with the audit documents that were reviewed, with three non-conformances and nine improvement opportunities identified for review and action by AGL and its contractors.

ABBREVIATIONS AND GLOSSARY

Term	Description
AGL	AGL Energy Limited
AQMSP	Air Quality Management Sub Plan
ASSMSP	Acid Sulphate Soil Management Sub Plan
CBI	CBI Constructers Pty Ltd
CEMP	Construction Environment Management Plan
CHMSP	Cultural Heritage Management Sub Plan
DGHMHMSP	Dangerous Goods & Hazardous Materials Handling Management Sub Plan
DP&I	Department of Planning and Infrastructure
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities
EPBC	Environment Protection and Biodiversity Conservation Act 1999
ERM	Environmental Resources Management Australia Pty Ltd
ERSP	Emergency Response Sub Plan
FERMSP	Flood Emergency Management Sub Plan
FFMSP	Flora and Fauna Management Sub Plan
GMP	Groundwater Monitoring Program
GMSP	Groundwater Management Sub Plan
MCoA	Ministers Conditions of Approval
NGSF	Newcastle Gas Storage Facility (the 'Project')
NVMSP	Noise and Vibration Management Sub Plan
SMSP	Soil Management Sub Plan
SoC	Statement of Commitments
SWMSP	Surface Water Management Sub Plan
TMSP	Traffic Management Sub Plan
VRMSP	Vegetation Rehabilitation Management Sub Plan
WMSP	Waste Management Sub Plan

1 INTRODUCTION

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned to perform a quarterly audit (fourth quarter) for the Newcastle Gas Storage Facility (NGSF) (the 'Project') 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".

Section 2.3 of the Compliance Tracking Program (Rev 1 issued 22/08/2012) commits to 3 monthly audits undertaken by the Project Environmental Representative to satisfy MCoA B54(b):

"a programme of independent environmental auditing will be carried-out in accordance with AS/NZ ISO 19011:2003 - Guidelines for Quality and/or Environmental Management Systems Auditing".

This audit is the third quarterly audit completed for the Project which covers the period 7 June 2013 to 18 September 2013.

1.1 PROJECT DESCRIPTION

AGL Energy Limited (AGL) is developing the Newcastle Gas Storage Facility 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. New South Wales currently has no reliable gas storage capacity.

Construction of the Newcastle Gas Storage Facility by CBI Constructers Pty Ltd (CBI) includes the gas storage facility site, access road and utility corridor and gas pipeline access corridor (the Project). Additional works by other contractors include 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.

1.2 *AUDIT OBJECTIVE*

The primary objectives for the 4th quarterly compliance audit include the following:

- to verify the implementation of the following plans:
  - Groundwater Management Sub Plan;
  - Waste Management Sub Plan;
  - Noise and Vibration Management Sub Plan; and
  - Air Quality Management Sub Plan.
- review the status of the ERM 3rd quarter audit findings;
- to identify the areas for potential improvement for environmental management; and
- provide advice as to whether any amendments to sub 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:

- forming of the LNG Tank bund wall, foundation works and underground services work in the Primary Project Area (PPA);
- installation of fencing along the main access road;
- installation of security fencing around the PPA;
- minor works along the Main Access Rd; and
- decommissioning of the TAC Access Road Compound.

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;
- the following sub plans of the Construction Environment Management Plan (Rev 1 issued 3/10/2012);
    - Groundwater Management Sub Plan (CBI Doc Number 170596-EN-PL-00002), Rev 0 issued 24 August 2012;
    - Waste Management Sub Plan (CBI Doc Number 170596-EN-PL-00012), Rev 0 issued 24 August 2012;
    - Noise and Vibration Management Sub Plan (CBI Doc Number 170596-EN-PL-00009), Rev 1 issued 21 March 2013; and
    - Air Quality Management Sub Plan (CBI Doc Number 170596-EN-PL-00002), Rev B issued 26 June 2012.
- Environmental Representative Site Inspection Reports for period 6 June 2013 to 18 September 2013.

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.

This report has been prepared solely for use by, and is confidential to, the client and ERM accepts no responsibility for its use by other persons. This report is subject to copyright protection and the copyright owner reserves its rights. This report does not constitute legal or financial advice.

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 18 September 2013. 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 audited; and
  - list of reference documents and audit criteria.
- opening meeting was held on 18 September 2013 at the site office to confirm audit objectives and scope. Attendees included:
  - Megan McLachlan (ERM Auditor); and
  - Craig Rivera (CB&I Environmental Manager).
- a site inspection was undertaken on 18 September 2013;
- 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 18 September 2013 to discuss initial findings and recommendations. Attendees included:
  - Megan McLachlan (ERM Auditor); and
  - Craig Rivera (CB&I Environmental Manager).
- preparation of draft audit report;
- response and action plan developed by CBI and AGL (refer *Annex E*); and
- preparation of final audit report.

2.2 *CLASSIFICATION OF AUDIT FINDINGS*

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

- **Conformance (C)**: Adequate and appropriate implementation against audit requirements.

- **Non-conformance Category 1 (NC-1)**: Failure to meet the requirements of the audit criteria in terms of legislative requirements, failure to achieve the management performance outcomes identified in documentation, or ineffective environmental management of the activity that represent an ***immediate risk*** to the environment or reputation of the company.

- **Non-conformance Category 2 (NC-2)**: Failure to achieve the management performance outcomes identified in documentation, or ineffective environmental management of the development that does not represent an immediate risk to the environment. These will generally be associated with documentation, records or administrative requirements.

- **Improvement Opportunity (IO)**: A finding which does not strictly relate to the scope of the audit and which could lead to performance improvement.

- **Not Applicable (NA):** requirement was not applicable to project operations during the audit as requirement or control was not applicable to the activities underway at the time.

3 AUDIT FINDINGS

3.1 PREVIOUS AUDIT FOLLOW-UP

3.1.1 3rd Quarter Audit Report

The 3rd quarter audit completed 6 June 2013 against the requirements of the MCoA, SoC and DSEWPaC Approval conditions raised 13 non-conformances and 6 improvement opportunities.

A summary of CBI's and AGL's response to previous outstanding audit findings is included in *Annex F.* Outstanding actions from previous audits are summarised in *Table 3.1.*

Table 3.1 Previous Audit Findings: Summary of Actions Outstanding

Issue	Finding	Response
Statement of Commitments		
Include a spill response plan in the emergency response plan and ensure that there is adequate spill response equipment stored onsite. Personnel will be trained on the emergency response plan and correct use of the spill response equipment.	Toolbox talks include spill response procedure. Consider including in the toolbox talks, training on how to use the spill kits and material effectively.	CBI has developed a training module for how to use spill kits effectively for use in upcoming toolbox talks. Talks outstanding.
Document Review		
Groundwater and Surface Water Monitoring Reports	Groundwater monitoring reports include exceedances of trigger values. AGL to confirm these exceedances are reported to EPA and HWC.	AGL to confirm groundwater monitoring exceedances are reported to EPA and HWC.
Surface Water Management Sub Plan	Protocol for investigation, notification and reporting of identified exceedances needs to be added to Surface Water Management Sub Plan (SWMSP).	Action outstanding – AGL to develop protocol.
Surface Water Management Sub Plan	Program to monitor and manage any in watercourse crossings, culverts and in-stream works to be added to SWMSP.	CBI to review and amend as appropriate

3.2 ASSESSMENT OF CEMP SUB PLAN IMPLEMENTATION

A compliance check of the MCoA and SoC conditions (field component) was completed against the commitments made in the targeted sub plans for the site. Non-conformances and improvement opportunities for each sub plan reviewed are summarised in *Table 3.2.*

A full review and audit findings for implementation of each Sub Plan are under the following Annexures:

- Groundwater Sub Plan *Annex A*
- Waste Management Sub Plan *Annex B*
- Noise and Vibration Management Sub Plan *Annex C*
- Air Quality Management Sub Plan *Annex D*

Table 3.2 Summary of Non Conformances and Improvement Opportunities

Item No	Assessment Requirement	Comment	Audit Classification
Groundwater Management Sub Plan			
Statement of Commitments			
107	Groundwater monitoring data collected from the site will be provided to HWC, EPA and NOW.	Groundwater monitoring completed monthly – review of correspondence sending reports to agencies to confirm compliance outstanding.	NA
Additional GMSP Commitments			
Table 8-1	Construct hardstand and bunded areas for refuelling of construction machinery to mitigate potential risks of groundwater contamination.	All refuelling done on site using mobile refuelling trucks. EWMS for refuelling checked. Refuelling also include in Ward's EWMS for Clearing and Grubbing, Bulk Earthworks, Vibro compaction works with refuelling and associated controls discussed. Site inspections indicate any pumps containing fuel contained within impervious container. Crane will need oil change out during operations – consider the review of the EWMS prior to activity being completed to ensure appropriate mitigation measures are developed and implemented.	IO
Table 8-2	Re-injection of excess groundwater pumped from trenches during construction where possible will minimise temporary changes in local groundwater levels.	All water pumped from excavations re-injected back to groundwater with exception of stormwater pit on PPA – minor quantities (unknown volume) used for dust suppression. Record volumes used for dust suppression for any future groundwater dewatering works.	IO
Table 8-2	Monitor bore integrity weekly. Decommission in advance of necessary site works, or if damaged, decommission properly. Replace bores as necessary.	Bore integrity formally checked during monitoring events only. Consider adding requirement to weekly checklist.	IO

Item No	Assessment Requirement	Comment	Audit Classification
Waste Management Sub Plan			
Statement of Commitments			
85	When wastewater is tankered, the system will have a telemetered level sensor that alarms when over range; the tank will be included on the regular site inspection and reporting program.	Wastewater pit located in the Primary Project Area is alarmed (visual and audible). Anecdotally area is checked daily. Consider the formal addition of daily or weekly check of pit levels (if practicable) to prevent further overflows.	IO
Additional WMSP Commitments			
Section 3.2	All project personnel will undergo a general project induction prior to commencing work with CBI. This will include a component on waste and reuse management, to ensure personnel understand the potential impacts and proposed mitigation measures. Examples of topics that will be covered during project induction and toolboxes include: • waste storage and segregation; • waste reporting; • roles of personnel in waste management and reporting; • actions to be taken if potential contamination is encountered; and • energy efficient work practices.	Toolboxes completed for all topics listed with exception of waste reporting and roles of personnel in waste management and reporting as not considered necessary/relevant. Focus of toolboxes has been on waste storage and segregation. Consider reviewing list of topics to reflect degree of risk and include relevant topics to the project.	IO
Section 5.1.1	Details of wastes removed from site will be included in monthly reports to AGL.	Review of monthly reports indicates details of waste removed not included. Consider confirming requirement for reporting with AGL and include waste volume breakdowns for types of waste removed into monthly report if required.	NC-2

Item No	Assessment Requirement	Comment	Audit Classification
Section 5.2	Annual waste audits will be undertaken to: • identify measures to improve waste management practices; and • identify measures to improve energy efficiency and reduce greenhouse gas emissions.	Annual waste audit to be completed as construction commenced 28 August 2012. Consider the completion of a waste audit.	NC-2
Appendix A, Table 7.3	Cover vegetation stockpiles where material is to remain exposed for a long period of time	Mulch stockpiles are located along Gas Access Track and are uncovered. Covering of stockpiles with plastic may affect seed viability. Consider the review of this condition and either implement the requirement or remove from Table 7.3.	IO
Appendix A, Table 7.6	Waste materials will be tracked so that the appropriate management of waste can be demonstrated	Waste register reviewed – logs and mulch recycled and concrete waste removal not included. Review all materials removed off site and include in materials tracking register.	NC-2
Noise and Vibration Management Sub Plan			
Additional NVMSP Commitments			
Section 3.2	Examples of topics that will be covered during project induction and toolboxes include: • Normal work hours; • What activities can and can't take place outside of these working hours; • Location of noise sensitive areas; • The employment of reasonable and feasible noise mitigation measures; and • Roles and responsibilities of the Project team related to noise and vibration.	Toolbox topics do not include these topics. Requirements conveyed to sub-contractor (Daracon) management. Consider the review of toolbox topics to determine relevance and implement changes.	IO

Item No	Assessment Requirement	Comment	Audit Classification
Air Quality Management Sub Plan			
Additional AQMSP Commitments			
Appendix B, Table 8.3	Stockpiles will be stabilised or covered if they are to remain in place for a period of greater than 2 weeks.	Stockpiles spray mulched or natural revegetation occurring (in case of topsoil stockpiles). Covering of stockpiles would affect seed viability. Delay noted with stabilising with mulch. No further stabilising works required. Stockpiles not stabilised within 2 weeks. No further stockpiles to be generated for this stage of the project. Ensure any future stockpiles are stabilised within stipulated period.	IO
Appendix B, Table 8.3	Mulch stockpiles will be limited to 1 metre in height where possible.	Mulch stockpiles initially greater than 1m but long term storage height as per commitment. SMSP lists heights of mulch can be stored to 3m. Review the SMSP and AQMSP mulch stockpile heights and remove inconsistency.	IO

4 CONCLUSION

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

- Groundwater Sub Plan;
- Waste Management Sub Plan;
- Noise and Vibration Management Sub Plan; and
- Air Quality Management Sub Plan.

Overall, substantial conformance was achieved with the audit documents that were reviewed with the exception of three non-conformances and nine improvement opportunities.

Annex A

Audit Table – Groundwater Management Sub Plan

Table A.1 Compliance Assessment – Implementation of the Groundwater Management Sub Plan

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
All above ground tanks containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in place.	O4.1	page 9 of EPL Site Inspections	Site inspections confirm dangerous goods are bunded on portable bund trays or contained inside bunded shipping containers. No above ground storage tanks installed on site as at date of audit.	C	
DP&I, Ministers Conditions of Approval MP10_0133 issued 10 May 2012					
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.	A1 4	GMSP	GMSP includes measures – this audit reviews implementation of the measures.	C	
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.	A15	Section 5.5 of the CEMP Appendix E of GMSP Incident notification emails	Incident 06/03/2013 – dewatering of water over silt fence without testing as per SWMSP. Reported to EPA, HWC, DP& I, NOW and PSC within time frames.	C	
During construction, 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.	B15	Table 8-4 Site Inspections	Site inspections confirm dangerous goods are bunded on portable bund trays or contained inside bunded shipping containers.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Except as may be expressly provided by an Environment Protection Licence for the project, the Proponent shall comply with section 120 of the Protection of the Environment Operations Act1997 during construction of the project.	B20	EPL License No 20130 GMSP Dewatering records Site Inspections	Dewatering of excavations – water quality tested prior to groundwater recharge. Nil discharges to surface water during audit period with exception of incident reported - refer CoA A15. Controls to prevent sediment laden water installed around works along Old Punt Rd culvert.	C	
Statement of Commitments from the Preferred Project Report CR 6023_1-_v3 issued September 2011					
Minimise groundwater use	91	Table 8-1 Site Inspections	Minor volumes of groundwater used during period from dewatering of excavations – used for dust suppression. Volume's recorded.	C	
Re-inject excess groundwater pumped from trenches during construction where possible to minimise temporary changes in local groundwater levels	48	Table 8-6 Site Inspections	Groundwater pumped from pits recharged back to aquifer.	C	
Replace material excavated from trenches to minimise changes to groundwater flows, as far as practical. Where possible, pipelines will be bedded on sand in the base of the trench	93	Table 8-2 Site Inspections	Material excavated from replaced end of each day along Old Punt Rd. Excavations on Primary Project Area generally above water table with exception of areas requiring dewatering. All pipes buried in sand (site geology exclusively consists of sand).	C	
Protect groundwater quality	172	GWMSP	GWMSP and SWMP developed and implemented. Audits against implementation completed as per	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
			CEMP.		
Construct hardstand and bunded areas for refuelling of construction machinery to mitigate potential risks of groundwater contamination	GWMSP - AGL	Table 8-1 Site Inspections Interview CBI Environment Manager	All refuelling done on site using mobile refuelling trucks. SWMS for refuelling checked. Refuelling also include in Ward's SWMS for Clearing and Grubbing, Bulk Earthworks, Vibro compaction works with refuelling and associated controls discussed. Site inspections indicate any pumps containing fuel contained within impervious container. Equipment wash-downs completed off site in the Tomago industrial area. No machinery washed on site.	IO	Review the GWMSP commitment and edit the plan accordingly. Crane will need oil change out during operations – consider the review of the EWMS prior to activity being completed
Monitor groundwater levels and quality within and at the boundaries of the gas plant site.	95	Section 5.0 Quarterly Groundwater and Surface Water Monitoring reports	Monthly groundwater monitoring completed.	C	
Include a spill response plan in the emergency response plan and ensure that there is adequate spill response equipment stored onsite. Personnel will be trained on the emergency response plan and correct use of the spill response equipment.	1	Spill Response	No significant chemical spills or leaks reported during the audit period. All vehicles to carry spill kits with spot checks completed by CBI staff and ER during site inspections. Spill response training included in Tool box talks	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Groundwater monitoring will be undertaken in accordance with the groundwater management plan throughout the life of the Project in the primary project area assuming no changes beyond expected natural variation are observed in these bores.	98	GMSP Section 5.0 Quarterly Groundwater and Surface Water Monitoring Reports	Groundwater monitoring competed monthly and reported quarterly	C	
Source water from existing water supply infrastructure. Until the permanent water supply is available, it is currently proposed that this will be supplied to construction sites by either water tankers or from a standpipe such as a HWC metered standpipe along Old Punt Road.	34	Table 8-1 Site Inspections	Water supplied to site via tankers sourcing water from HWC metered standpipe on Old Punt Rd.	C	
A groundwater monitoring piezometer will be installed and regularly sampled for pathogens and nutrients, downstream of the holding tank for wastewater.	86 106	Table 8-1 Groundwater and Surface Water Monitoring Report April to June 2013 Gas Storage Site, Newcastle Gas Storage Facility – Construction Phase.	Groundwater bore located to north (down gradient) of sewage holding tank (MW5). Analytes tested include nutrients and pathogens such as E. Coli, total or faecal coliforms to indicate sewage contamination. Recent report indicated nil contamination.	C	
Groundwater monitoring data collected from the site will be provided to HWC, EPA and NOW.	107	Section 3.0 Section 5.0	Groundwater monitoring completed monthly – review of correspondence sending reports to agencies to confirm compliance outstanding.	NA	AGL to provide review of correspondence sending reports to agencies to confirm compliance.

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Monitor and assess groundwater quality with respect to background concentrations.	108	GMSP Section 5.0 Quarterly Groundwater and Surface Water Monitoring Reports	Groundwater monitoring competed monthly and reported quarterly	C	
Conduct a review of the analytical suite of groundwater monitoring parameters following first 12 months of construction works.	109	Section 5.0 Appendix C	Construction within first 12 months at date of audit.	NA	12 month anniversary 28 August 2013 therefore review required by next audit.
Additional Management Plan Commitments					
Training and Awareness					
All project personnel will undergo a general project induction prior to commencing work with CBI. This will include a groundwater component to reinforce the important management issues and the measures that will be implemented to protect the groundwater. Project inductions will include: • spill control and reporting of spills; • storage of dangerous goods and hazardous chemicals; and • excavation dewatering	Section 3.2	Toolbox talk records Six monthly compliance report – reporting period March to August 2013	Spill response training included in Tool box talks approximately once per monthly. CBI environment team held a workshop in May 2013 for the Trenching Environmental Work Method Statement (EWMS). This workshop included awareness training by CBI and procedures to be followed during trenching to minimise impacts to the environment. Dangerous Goods are applied to be brought onto the site by contractors with storage requirements discussed during this process.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Monitoring and Review					
Daily visual inspections of the construction site will be undertaken by the EV and construction personnel to identify actual or potential groundwater management concern.	Section 5.1	Daily Environmental Inspection Checklist	Checklists completed by CBI environment manager – includes checks for dewatering activities, discharges, spills, storage of dangerous goods.	C	
Documented weekly environmental inspections of implemented groundwater management and mitigation measures will also be undertaken by the EV and forwarded to the EM. for review	Section 5.1	Weekly Environmental Inspection Checklist	Checklists completed by CBI environment manager – includes checks spills, storage of dangerous goods, waste management.	C	
During construction the initial 12 month period will involve monthly monitoring of groundwater level and quality data to be completed by AGL. A 6-monthly interpreted report is envisaged but final requirements will depend on the specific planning approvals for surface water and groundwater monitoring.	Section 5.2.2	Quarterly Groundwater and Surface Water Monitoring Reports	Groundwater monitoring competed monthly and reported quarterly	C	
The construction monitoring program will be reviewed by AGL after 12 months to determine whether analytical suites and frequencies should be increased or decreased based on an assessment of results obtained up to that point. Monitoring of groundwater quality will continue throughout construction phase at a frequency of at least quarterly.	Section 5.2.2	Interview – AGL Environment Manager	Review completed with monthly monitoring to continue a further 3 months until November 2013. Further review of the frequency will be completed during agency meeting proposed in November 2013.	C	
The Environmental Review Group (ERG) and ER will inspect the site regularly.	Section 5.1	ER Site Inspection Reports ER monthly reports	ER inspections completed once per fortnight	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Quarterly internal audits for compliance against the CoA, SoC and other relevant licences and approvals will be undertaken and will include an audit of the worksite and subcontractors to assess compliance with this Plan and site EWMS, including all environmental management aspects related to groundwater.	Section 5.4	CBI Internal Audit Reports AGL Internal Audit Reports	CBI completes audits quarterly against corporate environmental requirements. AGL completes audits against CEMP six monthly ER completes audits quarterly	C	
Appendix B – Groundwater Mitigation and Management Measures (additional to CoA and SoC)					
Ensure suitable protection of AGL groundwater monitoring bores during construction. This would include marking of the locations and construction of barrier fences if required (depending on proximity of construction work).	Appendix B, Table 8.1	Site Inspection	Four groundwater bores located within the construction footprint – marked with parawebbing. Bores are located just inside fence line which is away from primary works.	C	
Diversion drains shall be constructed as necessary to divert surface water drainage away from soil stockpiles, excavations or other disturbed areas. No area requiring diversion drains shall be left overnight without diversion drains unless approved by the Environment Officer (or delegate).	Appendix B, Table 8.1	Site Inspection	Diversion drains only required along eastern portion of Main Access Road – installed as per SMSP.	C	
Surface water runoff treatment ponds shall be constructed on-site prior to construction work commencing. The potential to utilise the main Holding Pond area as a final sediment basin prior to the operations phase of the Project will be further investigated. At least one monitoring bore is required on the downgradient (northern) side to ensure there are no groundwater impacts.	Appendix B, Table 8.1	Site Inspection	As site is sandy, runoff rarely occurs on site. Dewatering of any construction pads/sites is directed to stormwater pit - pit is sealed concrete with no requirement to dewater up to date of audit. Will require testing as per SWMSP prior to release. Final sediment basin to be constructed.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
			MW1, MW5 located to north of proposed sediment basin. MW4 located to west of proposed sediment basin.		
It is recommended that groundwater inflow be observed during construction activities and dewatering pumping options revised as necessary.	Appendix B, Table 8.2	Site Inspection Dewatering records	Pump out of excavations monitored with pump rates varied as required – generally drawdown consistent.	C	
Stormwater collected within trenches may be used for dust suppression on adjacent areas. Stormwater may be discharged across adjacent vegetated areas where grasses are sufficient to act as a natural filter.	Appendix B, Table 8.2	Site Inspections Interview – CBI Environment Manager	Dewatering currently directed to pit for testing prior to discharge/use.	C	
Groundwater inflow and re-injection rates will be monitored during excavation works and trenching. Prior to re-injection, water quality parameters including pH will be measured.	Appendix B, Table 8.2	Site Inspections Interview – CBI Environment Manager Dewatering records	pH monitored prior to reinjection. Flow volumes and dates recorded.	C	
Replace material excavated from trenches to minimise changes to groundwater flows, as far as practical. Where possible, pipelines will be bedded on sand in the base of the trench.	Appendix B, Table 8.2	Site Inspections Interview – CBI Environment Manager	Material excavated placed back into trenches. Material primarily sand.	C	
Re-injection of excess groundwater pumped from trenches during construction where possible will minimise temporary changes in local groundwater levels.	Appendix B, Table 8.2	Site Inspections Interview – CBI Environment Manager	All water pumped from excavations re-injected back to groundwater with exception of stormwater pit on PPA – minor quantities (unknown volume) used for dust suppression	IO	Record volumes used for dust suppression for any future groundwater dewatering works.

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Monitor bore integrity weekly. Decommission in advance of necessary site works, or if damaged, decommission properly. Replace bores as necessary.	Appendix B, Table 8.5	Daily Environmental Inspection Checklist Weekly Environmental Inspection Checklist Interview – CBI Environment Manager	Bore integrity formally checked during monitoring events only.	IO	Consider adding requirement to weekly checklist.

Annex B

Audit Table – Waste Management Sub Plan

Table B.1 Compliance Assessment – Implementation of the Waste Management Sub Plan

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Regulatory Requirements - EPL 20130					
The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.	L3.1	page 7 of EPL Site Inspections	No waste received on site to date of audit.	NA	
Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	O1.1	page 8 of EPL Site Inspections	Waste stored in skip bins, segregated correctly with minor contamination in the recycling noted. Toolboxes held regularly to improve recycling and segregation rates. Minor storage of dangerous goods only in DG cabinets, bunded shipping containers or self bunded pallets.	C	
DoPI, Ministers Conditions of Approval MP10_0133 issued 10 May 2012					
The Proponent shall not cause, permit or allow any waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing, or disposal on the site during construction, except as expressly permitted by a licence under the Protection of the Environment Operations Act 1997, if such a licence is required in relation to that waste.	B41	This Plan/ Appendix A	No waste received on site to date of audit.	NA	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
The Proponent shall maximise the reuse and/or recycling of construction waste materials generated on site, to minimise the need for treatment or disposal of those materials outside the site.	B42	This Plan/ Appendix A Waste Register	Waste stored in skip bins, segregated correctly with minor contamination in the recycling noted. Toolboxes held regularly to improve recycling and segregation rates. Subsoil deemed unsuitable for reuse on-site has been screened to enable reuse. Bulk of mulch went to Austar mine for use in rehabilitation works. Extra mulch to Lake Macquarie Council. Excess logs to Newcastle Earthmoving for future use. Scrap metal and concrete recycled.	C	
The Proponent shall ensure that all liquid and / or non-liquid construction waste generated by the project is assessed and classified in accordance with the Waste Classification Guidelines (DECC 2008, or any future guideline that may supersede that document) and where removed from the site is only directed to a waste location lawfully permitted to accept those materials.	B43	This Plan/ Appendix A	Waste Register maintained recording all movements. Waste generated primarily dry waste. Soil contaminated from oil spills tracked under the regulated waste system and disposed to authorised waste facility. Excavated material from Old Punt Rd treated as PASS tested against Waste Classification Guidelines and disposed as solid waste.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Statement of Commitments from the Preferred Project Report CR 6023_1-_v3 issued September 2011					
Ensure concrete mixers and pump trucks are not washed on-site.	2	Appendix B Site inspections Interview - CBI Environment Manager	Variation to CoA to enable onsite washouts with appropriate controls to be implemented by CBI completed. Concrete mixers chute is washed into plastic lined skip bins. Mixer and pump trucks are not washed on site – taken back to depot for wash out.	C	
Use licensed contractors 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.	8	Appendix A Waste Register Regulated Waste Tracking Certificates	Regulated wastes tracked with certificates issued – includes licence number of contractor. Waste facility nominated on certificate. Check of nominated facilities confirms disposal location appropriately licensed.	C	
Remove wastewater and sewage from site by an EPA licensed operator for treatment at an EPA-approved wastewater treatment facility.	9	Section 2.1.3 Appendix A Waste Register Affordable Sanitation Services – service dockets Interview – CBI Environment Manager	Review of materials tracking register indicates amenities wastewater transported by Affordable Sanitation Services – service dockets are left at site office. Verbal confirmation received that disposal location is appropriately licenced Written confirmation of disposal location from transporter obtained.	C	
Transport amenities wastewater offsite by a licensed operator to a licensed disposal facility.	36	Table 7-1	Refer SoC 9	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
When wastewater is tankered, the system will have a telemetered level sensor that alarms when over range; the tank will be included on the regular site inspection and reporting program.	85	Table 7-1 Site Inspection	Wards toilet blocks had visible and audible alarms installed (ladies installed retrospectively after overflow incident). Facilities now decommissioned. Wastewater pit located in the Primary Project Area is alarmed (visual and audible). Anecdotally area is checked daily. Wastewater pumped out regularly (weekly) which is entered into materials tracking register.	IO	Consider the formal addition of daily or weekly check of pit levels (if practicable) to prevent further overflows.
If any evidence of illegal dumping of wastes on the Project area is observed the dumped material will be removed immediately. 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.	342	Table 7-1 Site Inspection Interview – CBI Environment Manager	Some dumping of waste material near entrance to site noted at beginning of project. Material removed. No further dumping noted.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Additional Management Plan Commitments					
Training and Awareness					
All project personnel will undergo a general project induction prior to commencing work with CBI. This will include a component on waste and reuse management, to ensure personnel understand the potential impacts and proposed mitigation measures. Examples of topics that will be covered during project induction and toolboxes include: • waste storage and segregation; • waste reporting; • roles of personnel in waste management and reporting; • actions to be taken if potential contamination is encountered; and • energy efficient work practices.	Section 3.2	Toolbox records Interview – CBI Environment Manager	Toolboxes completed for all topics listed with exception of waste reporting and roles of personnel in waste management and reporting as not considered necessary/relevant. Focus of toolboxes has been on waste storage and segregation.	IO	Consider reviewing list of topics to reflect relevant topics to the project.
Monitoring and Review					
Daily visual inspections of the construction site will be undertaken by the EV and construction personnel to identify any waste management issues	Section 5.1	Daily Environmental Inspection Checklists	Checklists includes review of waste storage and management	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Documented weekly environmental inspections of the construction site will also be undertaken by the EA using the weekly environmental inspection checklist and forwarded to the EM for review.	Section 5.1	Weekly Environmental Inspection Checklists	Checklists includes waste	C	
The Environmental Review Group (ERG) and ER will inspect the site regularly. Any actions to be undertaken as a result of any site inspection will be recorded in the CBI Environmental Action Register.	Section 5.1	ER Site Inspection Reports ER Monthly Reports	Inspections are completed approximately once every two weeks.	C	
A Waste Removal Register will be maintained by the EV and subcontractors to record the management of wastes from the Project	Section 5.1.1	Waste Register	Waste register maintained	C	
Dockets / receipts / manifests will also be retained for waste tracking to record the date of waste removal, and identify the waste transport contractor and destination of the wastes from the worksite.	Section 5.1.1	Review of waste dockets	Dockets collected for all wastes removed from site.	C	
Details of wastes removed from site will be included in monthly reports to AGL.	Section 5.1.1	CBI monthly reports	Review of monthly reports indicates details of waste removed not included	NC-2	Consider the inclusion of waste volume breakdowns for types of waste removed into monthly report or confirm requirement for reporting with AGL.

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
The following records relating to waste management are to be maintained: • material tracking register; • waste Dockets 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 daily/weekly inspections during construction;	Section 5.1.3	Review of records including: Material Tracking Register Waste Dockets Douglas Partners "Report on Waste Classification Testing", March 2013 Daily and Weekly Environmental Inspection Checklists	All records maintained as required	C	
Annual waste audits will be undertaken to: • identify measures to improve waste management practices; and • identify measures to improve energy efficiency and reduce greenhouse gas emissions.	Section 5.2	Interview – CBI Environment Manager	Annual waste audit to be completed as construction commenced 28 August 2012.	NC-2	Consider the completion of a waste audit
Concrete, steel, timber, greenwaste and plasterboard will be stored in separate stockpiles, no more than 1m in height or in skip bins.	Appendix A, Table 7.3	Site Inspections	Material is segregated and generally stored in skip bins. Concrete is stored in stockpiles below 1m in height.	C	
Non-recyclable plastic and domestic waste will be placed into skip bins for collection by a waste contractor.	Appendix A, Table 7.3	Site Inspections	Skip bins and wheelie bins designated for solid waste are located on site.	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.	Appendix A, Table 7.3	Site Inspections	Skip bins and wheelie bins for recyclables are located on site. Minor contamination has been noted in the recycling bins with toolboxes held to encourage further recycling and minimise contamination.	C	
Cardboard boxes will be placed in a paper recycling skip bin for collection by a recycling contractor.	Appendix A, Table 7.3	Site Inspections	Cardboard skip bin located in laydown area for main construction site.	C	
Cover vegetation stockpiles where material is to remain exposed for a long period of time	Appendix A, Table 7.3	Site Inspections	Mulch stockpiles are located along Gas Access Track and are uncovered.	IO	Consider the review of this commitment and either implement the requirement or remove from Table 7.3
Waste materials will be tracked so that the appropriate management of waste can be demonstrated. A register containing the following information must be kept: • the material type and volume; • the classification of the waste; • where it was re-used, i.e. location on the Project site or property address if re-used off-site (if re-used); • where it was disposed, i.e. landfill name and address (if disposed);	Appendix A, Table 7.6	Site Inspections Material Tracking Register	Waste register reviewed – logs and mulch recycled and concrete waste removal not included. All information included in register with exception of waste classification. Waste classification column added to register during audit.	NC-2	Review all materials removed off site and include in materials tracking register.

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Reference number of relevant documentation, (i.e. waste dockets, waste classification letters), if applicable. Documentation regarding the classification re-use, recycling and/or disposal must be retained. This could include waste dockets from landfills, and letters from consultants.					
Hydrotest water will be transferred to the holding pond by CBI.	Appendix A, Table 7.8	Interview – CBI Environment Manager	Hydrotest water procedure under development – no disposal of hydrotest water during audit period	NA	
AGL will be responsible for disposal of hydrotest water.	Appendix A, Table 7.8	Interview – CBI Environment Manager	Hydrotest procedure under development by AGL – will include trigger values and disposal options.	NA	
Where hydrotest water can be reused, CBI proposes to store it in the firewater tank for use of subsequent hydro tests of smaller scale (e.g. gas storage facility pipelines) or for dust suppression.	Appendix A, Table 7.8	Interview – CBI Environment Manager	Hydrotest procedure under development by AGL – will include trigger values and disposal options.	NA	

Annex C

Audit Table – Noise and Vibration Management Sub Plan

Table C.1 Compliance Assessment – Implementation of the Noise and Vibration Management Sub Plan

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Regulatory Requirements - EPL 20130					
Standard construction hours Unless otherwise specified by any other condition of this licence, all construction activities are: a) restricted to between the hours of 7:00am and 6:00pm Monday to Friday; b) restricted to between the hours of 8:00am and 1:00pm Saturday; and c) not to be undertaken on Sundays or Public Holidays.	L4.1	Interview – CBI Environment Manager	Site hours are 7 to 5pm M-F and 8-1 Saturday. No works undertaken on Sundays or Public Holidays.	C	
The licensee may undertake construction works outside the standard hours of operation specified by this license provided that the works do not adversely affect the amenity of residents in the locality. Note: Construction works outside the standard hours of operation should be undertaken with the aim and in such a manner that noise from those works is inaudible at nearby residential receivers.	L4.2	Out of hours notifications	OOHW completed following procedure – check for noise audibility undertaken at boundary of site during works to confirm inaudible.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	O2.1	Form 17096-EN-F12	Plant and Equipment Noise Measurement report reviewed for 05/09/2013. Monitoring of equipment is completed and compared to design levels.	C	
DoPI, Ministers Conditions of Approval MP10_0133 issued 10 May 2012					
Any work generating high noise that has impulsive, intermittent, low frequency or tonal characteristics, including jack hammering, pile driving, rock hammering, rock breaking, saw cutting, sheet piling or vibratory rolling, shall only be undertaken: (a) between the hours of 8.00 am and 6.00 pm Monday to Friday; (b) between the hours of 8.00 am and 1.00 pm Saturday; and (c) in continuous blocks of no more than three hours, with at least one hour respite between each block of work generating high noise impact, where the location of the work is likely to impact the same receivers; except as otherwise approved by the Director-General. For the purposes of this condition "continuous" includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition.	B28	Appendix B Table 8-2 Daily Site Environmental Inspection Checklist Site Inspections Interview – CBI Site Environment Manager	Vibratory works not completed recently. Previously works completed in afternoon- vibratory roller and vibro piling. Daily checklists includes check for activities and if noticeable at site boundary. Nil works noticeable at site boundary during auditing period. Later start time communicated to Daracon	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Construction outside of the hours specified under condition B27 or B28 may be varied for works as approved through the out-of-hours work protocol required as part of the Construction Noise Management Plan under condition B57 of this approval. Any request to alter the hours of construction shall: (a) be considered on a case-by-case basis; (b) be accompanied by details of the nature and need for activities to be conducted during the varied construction hours and any other information necessary to reasonably determine that activities undertaken during the varied construction hours will not adversely impact on the acoustic amenity of receptors in the vicinity of the site; and (c) require that affected residential receivers are informed of the timing and duration of any construction activities approved under this condition at least 48 hours before that work commences.	B29	Appendix B Table 8-2 Out of Hour Work Notifications	Forms completed detailing required information. Nearest potentially affected receiver Botanic Gardens – all notifications communicated to community group for notification as required. Checks completed for noise at boundary of site.	C	
Statement of Commitments from the Preferred Project Report CR 6023_1-_v3 issued September 2011					
Meet the construction and operations noise goals of the Project to minimise disturbance to sensitive receptors.	227	Section 2.0 Noise monitoring sheets	Monitoring completed with noise goals met – results to be entered into register	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Stage Project activities (and reduce simultaneous noise emitting practices) to reduce peak noise levels.	267	Appendix B Noise monitoring sheets	Earthmoving now completed. Works emitting noise limited to dust cart, trucks delivering concrete and equipment, welding, small vehicles. Arc welding nosiest activity – scheduled during normal work hours.	C	
Incorporate attenuation (such as mufflers) into the design of Project equipment and infrastructure.	268	Equipment checklists Daily prestart forms	Vehicles are checked prior to entry on site – includes checks for silencers and mufflers. Daily pre start checks include check for excessive noise.	C	
Orient equipment away from receptors.	269	Appendix B Site Inspections	Equipment is located away from receptors – nearest resident 2.7km away.	NA	
Restrict noise generating construction activities to daytime hours (7.00 a.m. to 6.00 p.m. Monday to Friday and 8.00 a.m. to 1.00 p.m. Saturday). In special circumstances, if noise generating evening or night work is required, a consultation process will be undertaken to ensure noise impacts can be adequately controlled.	270	Appendix B OOHW Notification's Interview – CBI Environment Manager	Activities completed during work hours. OOHW inaudible.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Schedule high noise generating activities for less sensitive times of the day (including periodic respite breaks from noise).	271	Appendix B Interview – CBI Environment Manager	No high noise generating activities during period of audit. Arc welding will include noise checks at boundary.	C	
Consult potential noise receptors (particularly those within 500 m of the gas pipeline works) about the nature of the noise emissions and avoidance and mitigation practices to be adopted. Complaints and feedback and will be recorded and addressed where practical.	272	Section 3.1 Table 8-1	No works within 500m of sensitive receptors during period of reporting with exception of botanical gardens. OOHW notified to community section AGL	C	
Ensure vehicles and equipment are in good working order and has effective noise reduction features.	273	Appendix B Equipment checklists Daily prestart forms	Silencers and mufflers installed on all vehicles. Daily pre start checks include check for excessive noise. Vehicles spot checked for noise levels and compared against design.	C	
Construction activities will be implemented with a focus on vibration control at source and consultation with potentially affected receptors.	277	Table 8-3	Vibratory roller and vibro compaction completed during reporting period – site inspections indicate impacts localised	C	
The following measures will be implemented (where practical) to manage impacts of construction vibration and ensure Project goals are met: Use alternative, lower-impact equipment or methods where practicable.	279	Appendix B Site Environment Inspection Checklists	Check of vibration at boundary indicates no off site impacts.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Operate high vibration equipment as far away from receptors as possible. Rock-breakers will not be used within 20 m of residences.	280	Table 8-3 Daily Environment Inspection Checklists	Nearest receptor 500m away (Botanical Gardens). No rock breakers required for this stage of works. Check of vibration at boundary indicates no off site impacts.	C	
Schedule vibration-causing equipment to be used at the least sensitive time of day (times of day to be determined in consultation with local stakeholders, including councils).	281	Appendix B Site Inspections Daily Environment Inspection Checklists	Vibratory roller used during reporting period – site inspections indicate impacts localised. No sensitive receptors impacted.	C	
Keep equipment well maintained.	282	Appendix B Daily Prestart checklists	Vehicle checklist completed daily prestart. Records maintained.	C	
Reduce instances of simultaneous vibration activities.	283	Appendix B Site Inspections Daily Environment Inspection Checklists	Vibratory roller used during reporting period – works in different areas with site inspections indicating no cumulative impact.	C	
Isolate high vibration equipment on resilient mounds.	284	Appendix B	Nil high vibration equipment used during audit period	NA	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Consult potential receptors about the nature of construction vibration and avoidance and mitigation practices to be adopted (particularly those within 500 m of the pipeline works, including the receptor R5 (217 Old Maitland Road)). Community feedback and complaints will be recorded and addressed where practical.	285	Appendix B	No vibratory works completed within 500m of sensitive receptors during audit period	NA	
Monitor noise emissions during construction and operations to ensure equipment is meeting noise certification and criteria requirements and detect any faulty or damaged equipment.	286	Section 5.0 Noise monitoring register	Noise monitoring completed as per NVMSP	C	
Monitor vibration levels during construction to ensure vibration criteria are being met.	287	Section 5.0 Daily Environmental Inspection Checklists	Daily checks for vibration at site boundary completed.	C	
Monitor responding to community complaints in line with EPA license conditions	288	Table 8-1 Interview – CBI Environment Manager	No complaints received during audit period	NA	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Additional Management Plan Commitments					
Training and Awareness					
All project personnel will undergo a general project induction prior to commencing work with CBI. This will include a noise and vibration management component to reinforce the importance of noise and vibration issues and the measures that will be implemented to protect the environment.	Section 3.2	Induction slide pack	Induction highlights nearest receptors and identifies noise and vibration as potential issues.	C	
Examples of topics that will be covered during project induction and toolboxes include: • Normal work hours; • What activities can and can't take place outside of these working hours; • Location of noise sensitive areas; • The employment of reasonable and feasible noise mitigation measures; and • Roles and responsibilities of the Project team related to noise and vibration.	Section 3.2	Induction slide pack Toolbox Records	Toolbox topics do not include these topics. Requirements conveyed to sub-contractor (Daracon) management.	IO	Consider the review of toolbox topics to determine relevance and implement changes.

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Monitoring and Review					
Noise monitoring will be conducted, if required, to verify compliance with the CoA objectives, and to determine if the actual construction noise generated exceeds the 'worst case' construction noise levels identified in this Plan.	Section 5.1	Noise monitoring records.	Noise monitoring completed to confirm noise goals are met.	C	
Documented weekly environmental inspections of the construction site will also be undertaken by the EV through the weekly environmental inspection checklist and forwarded to the EM. The weekly checklist includes a section on noise and vibration controls.	Section 5.1	Daily Environmental Inspection Checklist	Checks are completed daily for noise and vibration	C	
The Environmental Review Group (ERG) and ER will inspect the site regularly. Any actions to be undertaken as a result of any site inspection will be recorded in the CBI Environmental Action Register	Section 5.2	ER Site Inspection Reports ER Monthly reports	ER inspects site approximately once per fortnight.	C	
Should complaints be received, additional noise monitoring may be undertaken at sensitive receivers to determine if the actual construction noise generated exceeds the predicted construction noise goals identified in Table 2-3 and Table 2-4 of this Plan	Section 5.2	Interview – CBI Environment Manager	No complaints received therefore nil additional monitoring completed	NA	
Ongoing spot checks of noise intensive plant and equipment will also be undertaken throughout construction	Section 5.2	Noise monitoring records	Checks completed on machinery	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Where actual noise levels are found to exceed the predicted worst case levels, the source of excessive noise generations will be identified, and any additional feasible and reasonable measures available will be implemented to either reduce noise emissions or reduce the impacts on receivers.	Section 5.2	Interview – CBI Environment Manager	No noise levels exceeded during spot checks	NA	
Details of site activity and equipment usage will be noted during construction noise monitoring. Reports prepared following completion of monitoring will include the following: • the locations and results of construction noise monitoring; • tabulation of noise management results (including LMAX, L10, L90 and LAeq noise levels) together with notes identifying the principle noise sources and operations; • summary of any measurements exceeding the goals, and descriptions of the plant or operations causing these exceedances; • where exceedances of noise level predictions occur CBI will implement where reasonable and feasible, additional noise mitigation as soon as possible and	Section 5.2	Interview – CBI Environment Manager Noise Monitoring register	Noise register includes all information as per commitment	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
in consultation with affected landowners to ensure that adverse noise impacts are minimised to the extent possible (see Appendix B); and • details of corrective action applicable to goal exceedances, and confirmation of its successful implementation.					
Regular environmental compliance audits against the SWMS will also incorporate any concerns relating to noise.	Section 5.3	Interview – CBI Environment Manager	Anecdotally SWMS are reviewed.	NC-2	Consider the formal documentation of any reviews completed.
Where actual noise levels are found to exceed the predicted worst case levels, the cause/source of excessive noise generation will be identified and the EM will notify AGL and EPA. CBI will implement any additional reasonable and feasible measures available to either reduce noise emissions, or reduce impacts on receivers.	Section 5.4	Interview – CBI Environment Manager	No noise levels found to exceed goals	NA	
Appendix B – Noise and Vibration Management and Mitigation Measures (additional to CoA and SoC)					
Compounds will be designed to promote one way traffic so that vehicles that need to reverse is minimised, and thus noise from reversing alarms is minimised.	Appendix B, Table 8.3	Site Inspections	Car park is one way	C	
Machines that are used intermittently such as dump trucks, cranes, rollers, bulldozers, excavators, bobcats, mulchers etc. will be shut down when not operated for periods greater than 15 minutes.	Appendix B, Table 8.3	Site Inspections	Vehicles used on site limited to 2 Frannas, 2 cranes, forklift, water cart and numerous small vehicles – all switched off during breaks unless not practicable.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Truck routes to and from the worksite will be via major roads where possible, in accordance with the Traffic Management Plan	Appendix B, Table 8.3	Interview – CBI Environment Manager	Site is located near Old punt Rd and Pacific Highway – no minor roads located in vicinity.	C	
Reversing of vehicles and equipment, and use of horns will be minimised to prevent noise emissions to nearby sensitive receivers.	Appendix B, Table 8.3	Site Inspections	Number of vehicles on site limited, reversal alarms not dominant noise.	C	
Where feasible and reasonable, replace "beeper" style reversing alarms with broad band variable level "quacker" reversing	Appendix B, Table 8.3	Site Inspections	Quacker reverse alarms fitted on all vehicles.	C	

Annex D

Air Quality Management Sub Plan Audit Tables

Table D.1 Compliance Assessment – Implementation of the Air Quality Management Sub Plan

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Regulatory Requirements - EPL 20130					
All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	O2.1	Daily Environment Inspection Checklist	Prestart checks completed daily on machinery. Daily checks on vehicle emissions completed.	C	
The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	O3.1	Site Inspections Daily Environment Inspection Checklist	Dust cart noted in use during inspections. Daily checklist includes monitoring for dust levels	C	
DoPI, Ministers Conditions of Approval MP10_0133 issued 10 May 2012					
During construction, the Proponent shall ensure no offensive odour as defined under the Protection of the Environment Operations Act 1997 is emitted from the project site.	B35	This Plan Appendix B Site Inspections	Nil odours noted during site inspections, works not expected to generate odours.	C	
The Proponent shall employ reasonable and feasible measures to ensure that construction activities associated the project are undertaken in a manner that minimises or prevents the emission of dust.	B36	This Plan Appendix B Site Inspections Daily Environment Inspection Checklist	Dust cart noted in use during inspections. Daily checklist includes monitoring for dust levels Subsoil and topsoil movement primarily completed. Topsoil will be moved during rehabilitation	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
			activities.		
Statement of Commitments from the Preferred Project Report CR 6023_1-_v3 issued September 2011					
The CEMP will include management strategies to mitigate work-site lighting, dust suppression and noise associated with the construction phase of the Project.	138	Appendix B Site Inspections Daily Environment Inspection Checklist	Site inspections indicate compliance during current construction activities. Checklists include checks for noise, dust. Noise monitoring completed.	C	
Minimise vegetation clearance to reduce the areas of exposed soil.	289	Appendix B Site Inspections	Vegetation clearance limited to areas required for roads and primary project area. Clearing now completed for this phase of the Project.	C	
Water construction sites during dry windy conditions as required, including cleared areas, soil stockpiles and unsealed roads.	290	Appendix B Site Inspections Daily Environment Inspection Checklist	Dust cart noted in use during inspections. 2 dust carts available for use during earthworks. Daily checklist includes monitoring for dust levels.	C	
Undertake activities likely to generate dust during favourable meteorological conditions where practical. Earth moving activities will be modified when wind speeds exceed 30 km/h if excessive dust is generated.	291	Appendix B Interview – CBI Environment Manager	Daily checks for excessive dust is completed and dust cart used to limit generation as required.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Prevent dirt being carried onto the TAC Northern Access Road or Old Punt Road from the access road where it could form dust.	292	Appendix B Site Inspections	Some tracking of material noted during works near TAC Northern Access Road. Rumble grid installed and road sweeper used to remove excess sediment during construction of Main Access Rd. Main Access Road now sealed with bitumen.	C	
Load trucks transporting any potential dust generating material off site to below the height of the side and tail board and cover the load.	293	Appendix B Interview – CBI Environment Manager	Soil not transported from site with exception of ASS treated soil – filled below rim of container and covered with tarp.	C	
Enforce vehicle speed limits on unsealed roads to reduce dust generation.	294	Appendix B Site Inspections	Speed limit signage placed on site (10km/h) and along Main Access Rd (50km/h).	C	
Revegetate as soon as practical.	295	Appendix B Site Inspections.	Main Access Rd stabilised with mulch and spray grass. Batters in PPA spray grassed.	C	
Maintain trucks and construction equipment in accordance with the manufacturers' specifications and comply with all relevant regulations.	296	Appendix B Interview – CBI Environment Manager Prestart checklists Daily Environmental Inspection Checklist	Daily checks completed on machinery which includes air emissions. Maintenance completed as required.	C	
Avoid unnecessary idling of trucks, plant and engines.	297	Appendix B Table 7-2	Noted – included in plan	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Plan material deliveries to avoid congestion and excessive truck queuing and truck idling.	298	Appendix B Interview – CBI Environment Manager Site Inspections	Approximately 1-2 trucks per day deliveries. Concrete trucks staggered to avoid queuing. No congestion noted during site inspections	C	
Project equipment, machinery and vehicles will meet exhaust air quality standards and will comply with state regulations. Machinery will be fitted with the appropriate emission control equipment and will be maintained and serviced frequently.	299	Appendix B Interview – CBI Environment Manager Prestart checklists Daily Environmental Inspection Checklist	Daily checks completed on machinery which includes check for excessive air emissions. Maintenance completed as required. Incoming vehicles – exhaust emissions checked.	C	
Maintain vehicles appropriately to maximise their fuel efficiency.	311	Appendix B Interview – CBI Environment Manager Prestart checklists	Vehicles maintained as per schedule – completed off site	C	
Additional Management Plan Commitments					
Training and Awareness					
All project personnel will undergo a general project induction prior to commencing work with CBI. This will include a dust and air quality management component to reinforce the importance of air quality issues and the measures that will be implemented to protect the environment.	Section 3.2	Induction slide pack	Induction includes section on dust management	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Examples of topics that will be covered during project induction and toolboxes include: • covering of all loads on public roads; • use of water sprays and carts as required during works; • actions to take in the event that dust is unduly impacting on sensitive receivers; and • review of dust generating activities in high wind conditions.	Section 3.2	Induction slide pack Toolbox records	Induction includes need to cover loads on public roads, reducing speed limits on haul roads and the use of water carts to control dust as required. Not discussed in tool boxes to date – risk considered low. Site inspections during audit period indicate dust well controlled.	C	
Monitoring and Review					
Air quality monitoring and reporting will be conducted for the duration of the Project. Daily visual inspections of the construction site will be undertaken by the EV and construction personnel to identify actual or potential air quality concerns	Section 5.1	Daily Environment Inspection Checklists	Daily checks are completed	C	
Documented weekly environmental inspections of the construction site will also be undertaken by the EV using the weekly environmental inspection checklist and forwarded to the EM for review. The weekly checklist includes a section on air quality and dust safeguards. The Environmental Review Group (ERG) and ER will inspect the site regularly.	Section 5.1	Weekly Environment Inspection Checklists	Weekly checks are completed. Fortnightly ER inspections indicate dust levels controlled	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Regular environmental compliance audits against the EWMS will also incorporate any concerns relating to air quality.	Section 5.2	Refer previous findings	EWMS are reviewed – 170596-EN-P25-Task Observation Procedure developed. Register maintained listing reviews	C	
Appendix B – Air Quality Management and Mitigation Measures (additional to CoA and SoC)					
No burning or incineration of any wastes will be permitted at any time on any construction worksite.	Appendix B, Table 8.1	Site Inspections Interview – CBI Environment Manager	All material removed off–site. Inspections indicate no evidence of material burned on site.	C	
Areas where odour generation is a concern will be monitored by the Environmental Advisor and measures will be taken to prevent odour where feasible.	Appendix B, Table 8.1	Site Inspections Interview – CBI Environment Manager	No odour generating activities completed onsite to date.	NA	
All site accesses will be designed to cope with the planned construction traffic volumes and duration. As a minimum all site accesses will be stabilised with gravel to minimise dust generation and tracking of sediments.	Appendix B, Table 8.2	Site Inspections Interview – CBI Environment Manager	Traffic Management Plan outlines management of traffic volumes. Main Access Rd is sealed with bitumen. Gas Access Track no longer used – stabilised with gravel.	C	
Vehicle and machinery movements will be restricted to designated areas.	Appendix B, Table 8.2	Site Inspections	Site inspections confirm machinery use designated access roads.	C	

Commitment	Commitment Reference	Reference / Evidence	Comments	Audit Classification	Recommendations
Stockpiles will be stabilised or covered if they are to remain in place for a period of greater than 2 weeks.	Appendix B, Table 8.3	Site Inspections	Stockpiles spray mulched or natural revegetation occurring (in case of topsoil stockpiles). Covering of stockpiles would affect seed viability. Delay noted with stabilising with mulch. No further stabilising works required.	IO	Stockpiles not stabilised within 2 weeks. No further stockpiles to be generated for this stage of the project.
Mulch stockpiles will be limited to 1 metre in height where possible.	Appendix B, Table 8.3	Site Inspections	Mulch stockpiles initially greater than 1m but long term storage height as per commitment. SMSP lists heights of mulch to 3m	IO	Review the SMSP and AQMSP mulch stockpile heights and remove inconsistency.
As a precaution, potential fire causing activities will be ceased during designated "Total Fire Ban" days.	Appendix B, Table 8.4	Site Inspections Daily Environmental Site Inspection Checklists	Daily check includes if total fire ban day – communicated at toolbox talks. Fire permits are required for high fire danger days. Person on fire watch required during hot works. Hot works permit always required which includes controls and checks for fire days. No flammable material within tank area where welding currently completed.	C	

Annex E

AGL and CBI Audit Response and Action Table – Previous Audit Reports

Table E.1 AGL and CBI Audit Response and Action Table – Previous Audits

Item No	Assessment Requirement	Audit Finding	Response/Action	Due Date
	Soil Management Sub Plan			
Minister's Conditions of Approval MP10_0133				
B21	Erosion and Sediment controls consistent with Managing Urban Stormwater: Soils and Construction Manual (Landcom, 2004, or its latest version) shall be installed prior to the commencement of soil disturbing works and shall be maintained until such time as the disturbed areas have been rehabilitated.	Erosion and Sediment Control Inspection and Maintenance Checklist recently updated to include sediment capacity, performance of measures and conditions of measures. Consider updating the SWMSP with the amended Checklist.	Added reference to 170596-EN-C08-Erosion and Sediment Control Inspection and Maintenance Checklist to Table 8-1 and Section 4.1. Also added revised checklist to Appendix D of SMSP	Completed
B22	The Proponent shall carry out rehabilitation of disturbed areas progressively, and as soon as reasonably practicable following disturbance.	Old Punt Rd works have been completed with a delay noted for stabilising road edges. First raised in ER site inspection report of 1 May 2013 with works to be completed as at date of audit. Plan is for Wards Civil to roll edges of road to stabilise.	Road edges have been compaction rolled on several occasions but deteriorate with vehicle usage after rain event. Road edge is stabilised but trench area further in from verge is prone to sinking when trafficked in wet conditions.	30/08/13
Statement of Commitments				
1	Include a spill response plan in the emergency response plan and ensure that there is adequate spill response equipment stored onsite. Personnel will be trained on the emergency response plan and correct use of the spill response equipment.	Toolbox talks include spill response procedure. Consider including in the toolbox talks, training on how to use the spill kits and material effectively.	CBI is preparing a training module for how to use spill kits effectively for use in upcoming toolbox talks.	30/08/13

Item No	Assessment Requirement	Audit Finding	Response/Action	Due Date
8	Use licensed contractors 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.	Four consignment numbers for contaminated soil material removed off site to be obtained from sub-contractors. Consider confirming waste has actually reached disposal location as stated on tracking documents as "due diligence".	Four missing consignment numbers for contaminated soil removal have been obtained from the subcontractor. CBI contacted the waste disposal company to confirm that waste was received by the tip. This was based on the job number, date and a description of the waste.	Completed 30/08/13
14	Include inductions to construction personnel that outline measures on how to deal with suspected contaminated soil.	Induction directs personnel to contact supervisor if suspected contaminated soil is found during works. Consider including in induction how to recognise/identify contaminated soil for reporting to supervisor	Unexpected find and information on how to identify contaminated soil has been added to the environmental induction (Rev 6)	Completed
15	A construction Surface Water Management Plan that describes erosion and sediment control will be prepared in accordance with NSW DECC Managing Urban Stormwater: Soils and Construction – Volume 2A Installation of Services 2008 (DECC, 2008) and Managing Urban Stormwater: Soils and Construction (The Blue Book) (Landcom, 2004). All erosion control and drainage works will be designed in accordance with Urban and Sediment Control Guidelines (DLWC, 1992).	Installation of controls as per guidance documents with exception of diversion drains along cuts on Main Access Road. Consider installing diversion drains as per plans in SMSP (if possible, divert water away from site to minimise load on erosion and sediment controls).	Drainage has been designed as per drawings. Alterations to the design require approval and allocation of funds before physical changes can be made.	Completed
49	Secure disturbed bare soils by re-spreading topsoil, re-vegetating or applying a geo-fabric (or similar), as soon as practicable after reinstatement of earthworks.	Refer to MCoA B22 (duplicated)	Noted	NA

Item No	Assessment Requirement	Audit Finding	Response/Action	Due Date
50	Re-vegetate exposed soils as soon as possible to reduce potential for sediment-laden runoff.	Refer to SoC49 and MCoA B22 (duplicated)	Noted	NA
59	Stabilise the banks of any disturbed watercourses adjacent to Old Punt Road using measures such as rock rip-rap, diversion berms, sediment fences, jute matting and reseeding.	Watercourse on Old Punt Road does not currently have erosion and sediment control structures installed. Consider installing erosion and sediment control devices around watercourse on Old Punt Rd until area surrounding is stabilised.	Erosion and sediment controls have been added above and on the banks of the culvert. This will be left in place until the area stabilises.	Completed
60	Divert runoff upstream of disturbed areas to existing drainage lines to prevent the risk of increasing erosion and requiring further sediment control measures.	Refer to SoC15 (duplicated)	Noted	NA
	Additional SMSP Commitments			
Section 3.2	Targeted training in the form of toolbox talks or specific training will also be provided to personnel with a key role in soil management. Examples of training topics include: • Identification of potentially contaminated soil and fill material.	Identification of potentially contaminated soil to be completed as per SoC14 (duplicated)	Refer Item No 14	NA
Section 5.2	Regular environmental compliance audits against the EWMS (Task Observation as described in Section 5.4.3 of the CEMP) will also incorporate any issues relating to soil.	EWMSs are anecdotally reviewed, marked up and comments given to the sub-contractors. No written records are currently maintained. Consider including a simple cover page which includes date, name of EWMS reviewed and any comments. Attached this to copy of marked up EWMS and filed as evidence of check being completed.	Task observation record to be developed and used in the field to confirm check has been completed.	30/08/13

Item No	Assessment Requirement	Audit Finding	Response/Action	Due Date
AGL	Provide workforce inductions and training to ensure personnel have knowledge of legislation regarding movement of soils (i.e. importing and exporting soils from site). Engage qualified consultants to assess materials proposed to be imported to or exported from site, and provide re-use/disposal options.	Legislation re movement of soils not included in induction. Topic not include in toolbox talks during audit period. Consider the inclusion of requirements to either inductions or target training to relevant staff.	Topic added into the environmental induction regarding importing and exporting soil to and from site	Completed
Surface Water Management Sub Plan				
Statement of Commitments				
37	Test and treat water generated by dewatering of trenches or excavations if required, and infiltrate back into the groundwater table at designated infiltration areas, or alternatively transport offsite to a licensed disposal facility.	Daracon and Wards complete tests for different parameters and at different frequencies for dewatering. Consider developing standard procedure which outlines parameters to be tested and required frequency when dewatering and infiltrating to groundwater.	Dewatering procedure being developed to clarify requirements for future dewatering and infiltration activities.	30/08/13
	Additional SWMSP Commitments			
Section 5.2.2	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: • 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;	Analytes tested as per commitment with exception of full suite of VOCs and SVOCs (BTEX and TPH tested monthly). Review likely contaminants and objectives of monitoring program and expand list of VOCs/SVOCs accordingly if required.	List of analytes will be included as part of the dewatering procedure being developed.	30/08/13

Item No	Assessment Requirement	Audit Finding	Response/Action	Due Date
	• Dissolved and total 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. Sampling and analysis of a volatile organic compounds (VOC) and semi-volatile organic compounds (SVOC) suite will also be undertaken at the start and end of the construction program.			
Acid Sulphate Soil Management Sub Plan				
Additional ASSMSP Commitments				
Section 5.1	Documented weekly environmental inspections of the construction site will also be undertaken by the EV using the weekly environmental inspection checklist and forwarded to the EM for review. The weekly checklist includes a section on ASS.	Weekly checklist does not include a section on ASS. Review weekly checklist and current commitment in ASSMSP. As future ASS works are limited, consider revising commitment in ASSMSP to include 'comment on any ASS works into Weekly Checklist comments section".	Weekly checklist updated to include comment on whether excavations are occurring in acid sulphate soils	Completed
Appendix B Table 7-1	Monitoring of ASS stockpiles after treatment. pH monitoring after initial treatment event. If pH values are <4, additional treatments will be required.	No further testing of pH was completed on the treated ASS stockpiles. Material was stored for a period > 4 weeks. Although this material was treated as a precaution and was not considered ASS, ensure if any treated stockpiles are stored in the future, testing is completed to confirm effective treatment of ASS.	Noted and agreed.	NA

Item No	Assessment Requirement	Audit Finding	Response/Action	Due Date
Appendix B Table 7-5	Ensure an appropriate lime register is maintained, listing the source of lime, quantity imported and where it is used on site.	A lime register was not maintained. Review the legal and guidance requirements for maintaining a lime register and action accordingly.	Review of ASMAC and other guidelines is silent on lime register. Original source reference to lime register is in Section 3 Table 6 of AGL ASSMP NGSF-AGL-NAS-EN-PLN-0005 (October 2011). Lime rate was set by Douglas Partners at 10kg/tonne in March 2013. Total lime used was 143 x 20 kilo bags.	Completed
Appendix B Table 7-9	ASS monitoring records; Excavation records; Stockpile tracking records; Register of lime used for ASS treatment; and Records of offsite disposal of treated stockpiles (i.e. landfill waste disposal dockets).	All required records maintained with exception of lime register. Duplicated finding – refer Table 7-5.	As above	NA

Annex F

AGL and CBI Response - 4th Qtr Audit Report

Table F.1 AGL and CBI Audit Response and Action Table – 3rd Quarter Audit

Item No	Assessment Requirement	Audit Finding	Response/Action	Due Date
	Soil Management Sub Plan			
Minister's Conditions of Approval MP10_0133				
B21	Erosion and Sediment controls consistent with Managing Urban Stormwater: Soils and Construction Manual (Landcom, 2004) or its latest version) shall be installed prior to the commencement of soil disturbing works and shall be maintained until such time as the disturbed areas have been rehabilitated.	Erosion and Sediment Control Inspection and Maintenance Checklist recently updated to include sediment capacity, performance of measures and conditions of measures. Consider updating the SWMSP with the amended Checklist.	Added reference to 170596-EN-C08-Erosion and Sediment Control Inspection and Maintenance Checklist to Table 8-1 and Section 4.1. Also added revised checklist to Appendix D of SMSP	Completed
B22	The Proponent shall carry out rehabilitation of disturbed areas progressively, and as soon as reasonably practicable following disturbance.	Old Punt Rd works have been completed with a delay noted for stabilising road edges. First raised in ER site inspection report of 1 May 2013 with works to be completed as at date of audit. Plan is for Wards Civil to roll edges of road to stabilise.	Road edges have been compaction rolled on several occasions but deteriorate with vehicle usage after rain event. Road edge is stabilised but trench area further in from verge is prone to sinking when trafficked in wet conditions.	30/08/13
Statement of Commitments				
1	Include a spill response plan in the emergency response plan and ensure that there is adequate spill response equipment stored onsite. Personnel will be trained on the emergency response plan and correct use of the spill response equipment.	Toolbox talks include spill response procedure. Consider including in the toolbox talks, training on how to use the spill kits and material effectively.	CBI is preparing a training module for how to use spill kits effectively for use in upcoming toolbox talks.	30/08/13
8	Use licensed contractors to collect, transport and dispose of hazardous materials such as waste solvents, paints, mercury absorption medium and hydrocarbons to a licensed off-	Four consignment numbers for contaminated soil material removed off site to be obtained from sub-contractors.	Four missing consignment numbers for contaminated soil removal have been obtained from the subcontractor.	Completed 30/08/13

Item No	Assessment Requirement	Audit Finding	Response/Action	Due Date
	site facility in accordance with EPA guidelines.	Consider confirming waste has actually reached disposal location as stated on tracking documents as "due diligence".	CBI contacted the waste disposal company to confirm that waste was received by the tip. This was based on the job number, date and a description of the waste.	
14	Include inductions to construction personnel that outline measures on how to deal with suspected contaminated soil.	Induction directs personnel to contact supervisor if suspected contaminated soil is found during works. Consider including in induction how to recognise/identify contaminated soil for reporting to supervisor	Unexpected find and information on how to identify contaminated soil has been added to the environmental induction (Rev 6)	Completed
15	A construction Surface Water Management Plan that describes erosion and sediment control will be prepared in accordance with NSW DECC Managing Urban Stormwater: Soils and Construction – Volume 2A Installation of Services 2008 (DECC, 2008) and Managing Urban Stormwater: Soils and Construction (The Blue Book) (Landcom, 2004). All erosion control and drainage works will be designed in accordance with Urban and Sediment Control Guidelines (DLWC, 1992).	Installation of controls as per guidance documents with exception of diversion drains along cuts on Main Access Road. Consider installing diversion drains as per plans in SMSP (if possible, divert water away from site to minimise load on erosion and sediment controls).	Drainage has been designed as per drawings. Alterations to the design require approval and allocation of funds before physical changes can be made.	Completed
49	Secure disturbed bare soils by re-spreading topsoil, re-vegetating or applying a geo-fabric (or similar), as soon as practicable after reinstatement of earthworks.	Refer to MCoA B22 (duplicated)	Noted	NA
50	Re-vegetate exposed soils as soon as possible to reduce potential for sediment-laden runoff.	Refer to SoC49 and MCoA B22 (duplicated)	Noted	NA

Item No	Assessment Requirement	Audit Finding	Response/Action	Due Date
59	Stabilise the banks of any disturbed watercourses adjacent to Old Punt Road using measures such as rock rip-rap, diversion berms, sediment fences, jute matting and reseeding.	Watercourse on Old Punt Road does not currently have erosion and sediment control structures installed. Consider installing erosion and sediment control devices around watercourse on Old Punt Rd until area surrounding is stabilised.	Erosion and sediment controls have been added above and on the banks of the culvert. This will be left in place until the area stabilises.	Completed
60	Divert runoff upstream of disturbed areas to existing drainage lines to prevent the risk of increasing erosion and requiring further sediment control measures.	Refer to SoC15 (duplicated)	Noted	NA
	Additional SMSP Commitments			
Section 3.2	Targeted training in the form of toolbox talks or specific training will also be provided to personnel with a key role in soil management. Examples of training topics include: • Identification of potentially contaminated soil and fill material.	Identification of potentially contaminated soil to be completed as per SoC14 (duplicated)	Refer Item No 14	NA
Section 5.2	Regular environmental compliance audits against the EWMS (Task Observation as described in Section 5.4.3 of the CEMP) will also incorporate any issues relating to soil.	EWMSs are anecdotally reviewed, marked up and comments given to the sub-contractors. No written records are currently maintained. Consider including a simple cover page which includes date, name of EWMS reviewed and any comments. Attached this to copy of marked up EWMS and filed as evidence of check being completed.	Task observation record to be developed and used in the field to confirm check has been completed.	30/08/13

Item No	Assessment Requirement	Audit Finding	Response/Action	Due Date
AGL	Provide workforce inductions and training to ensure personnel have knowledge of legislation regarding movement of soils (i.e. importing and exporting soils from site). Engage qualified consultants to assess materials proposed to be imported to or exported from site, and provide re-use/disposal options.	Legislation re movement of soils not included in induction. Topic not include in toolbox talks during audit period. Consider the inclusion of requirements to either inductions or target training to relevant staff.	Topic added into the environmental induction regarding importing and exporting soil to and from site	Completed
Surface Water Management Sub Plan				
Statement of Commitments				
37	Test and treat water generated by dewatering of trenches or excavations if required, and infiltrate back into the groundwater table at designated infiltration areas, or alternatively transport offsite to a licensed disposal facility.	Daracon and Wards complete tests for different parameters and at different frequencies for dewatering. Consider developing standard procedure which outlines parameters to be tested and required frequency when dewatering and infiltrating to groundwater.	Dewatering procedure being developed to clarify requirements for future dewatering and infiltration activities.	30/08/13
	Additional SWMSP Commitments			
Section 5.2.2	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: • General parameters – total suspended solids (TSS), turbidity, total dissolved solids (TDS) and EC; • Major cations – calcium, magnesium,	Analytes tested as per commitment with exception of full suite of VOCs and SVOCs (BTEX and TPH tested monthly). Review likely contaminants and objectives of monitoring program and expand list of VOCs/SVOCs accordingly if required.	List of analytes will be included as part of the dewatering procedure being developed.	30/08/13

Item No	Assessment Requirement	Audit Finding	Response/Action	Due Date
	potassium and sodium; • Major anions – alkalinity, chloride, sulphate and fluoride; • Dissolved and total 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. Sampling and analysis of a volatile organic compounds (VOC) and semi-volatile organic compounds (SVOC) suite will also be undertaken at the start and end of the construction program.			
Acid Sulphate Soil Management Sub Plan				
Additional ASSMSP Commitments				
Section 5.1	Documented weekly environmental inspections of the construction site will also be undertaken by the EV using the weekly environmental inspection checklist and forwarded to the EM for review. The weekly checklist includes a section on ASS.	Weekly checklist does not include a section on ASS. Review weekly checklist and current commitment in ASSMSP. As future ASS works are limited, consider revising commitment in ASSMSP to include 'comment on any ASS works into Weekly Checklist comments section".	Weekly checklist updated to include comment on whether excavations are occurring in acid sulphate soils	Completed

Item No	Assessment Requirement	Audit Finding	Response/Action	Due Date
Appendix B Table 7-1	Monitoring of ASS stockpiles after treatment. pH monitoring after initial treatment event. If pH values are <4, additional treatments will be required.	No further testing of pH was completed on the treated ASS stockpiles. Material was stored for a period > 4 weeks. Although this material was treated as a precaution and was not considered ASS, ensure if any treated stockpiles are stored in the future, testing is completed to confirm effective treatment of ASS.	Noted and agreed.	NA
Appendix B Table 7-5	Ensure an appropriate lime register is maintained, listing the source of lime, quantity imported and where it is used on site.	A lime register was not maintained. Review the legal and guidance requirements for maintaining a lime register and action accordingly.	Review of ASMAC and other guidelines is silent on lime register. Original source reference to lime register is in Section 3 Table 6 of AGL ASSMP NGSF-AGL-NAS-EN-PLN-0005 (October 2011). Lime rate was set by Douglas Partners at 10kg/tonne in March 2013. Total lime used was 143 x 20 kilo bags.	Completed
Appendix B Table 7-9	ASS monitoring records; Excavation records; Stockpile tracking records; Register of lime used for ASS treatment; and Records of offsite disposal of treated stockpiles (i.e. landfill waste disposal dockets).	All required records maintained with exception of lime register. Duplicated finding – refer Table 7-5.	As above	NA

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