



# Newcastle Gas Storage Facility

**6 Monthly Construction Compliance Report:  
28 February to 27 August 2013**

For AGL

November 2013

0169504

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AGL

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*6 Monthly Construction  
Compliance Report  
28 February to 27 August  
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# Newcastle Gas Storage Facility

6 Monthly Compliance Report

28 February to 27 August 2013

AGL Energy Limited

November 2013

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Position:	Project Manager
Signed:	
Date:	<u>13 November, 2013</u>
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0169504

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# **1 INTRODUCTION**

## **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 Constructors 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. These additional works had not commenced during the period covered by this report.

## **1.2 PROJECT APPROVAL**

The Minister for Planning approved the Project (11/08788), on 10 May 2012 subject to the conditions recommended in the Director General's report. On 5 February 2013 a modification of the Conditions of Approval (CoA) was issued under Part 75W of the Environment Planning & Assessment Act (EP&A Act), 1979.

## **1.3 PURPOSE AND SCOPE OF THIS COMPLIANCE REPORT**

This Compliance Report has been developed for the purpose of satisfying CoA B54 (a) which requires '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 Project commenced on 27 August 2012. The Compliance Tracking Program (CTP) for the project requires a review of the compliance status of the project against the conditions of approval and statement of commitments to be conducted every six months during the construction phase of the project and prior to the commencement of operation. This review is to be subsequently reported to the Director General. As such, and in accordance with the CTP, this construction compliance report covers the construction period from 28 February 2013 to 27 August 2013 inclusive.

As described in the CTP, AGL and the Construction Contractors are all responsible for compliance with the requirements of the CoA, however AGL will be responsible for maintaining the CTP for the Project and for the preparation of the periodic compliance tracking reports. The Construction Contractors will provide input to AGL, as required, to enable AGL to complete these reports.

Refer to *Table 1.1* regarding information required to satisfy CoA B54.

**Table 1.1** *Compliance Tracking Program Commitments*

AGL Commitment	Section of Compliance Report
At six monthly intervals throughout construction, subsequent to reviewing the compliance status of the project as discussed in <i>Section 2</i> , AGL will provide the compliance status to the Director-General in the form of a compliance tracking report. AGL will retain responsibility for preparing this report for the duration of the Project. The Construction Contractors will provide input to enable AGL to complete the compliance tracking reports as required. AGL will ensure that compliance tracking reports include the following information:	This report
<ul style="list-style-type: none"> <li>• Scope of the activities undertaken during the reporting period;</li> <li>• Performance of environmental controls that have been implemented;</li> </ul>	<p style="margin-left: 20px;">Section 2</p> <p style="margin-left: 20px;">Section 3</p>
<ul style="list-style-type: none"> <li>• Evaluation of compliance against the CoA and Statement of Commitments (SoCs) in tabular format. These tables establish a format for recording compliance:</li> <li>• Non-compliances during the reporting period</li> <li>• Outcomes of monitoring undertaken over the reporting period and review of compliance against relevant criteria</li> <li>• Significant outcomes of audits and inspections undertaken during the reporting period</li> <li>• Substantiated environmental complaints received; AGL’s response and current status</li> </ul>	<p style="margin-left: 20px;">Section 7 and Annex A</p> <p style="margin-left: 20px;">Section 8</p> <p style="margin-left: 20px;">Section 4</p> <p style="margin-left: 20px;">Section 5</p> <p style="margin-left: 20px;">Section 6</p>

## SCOPE OF CONSTRUCTION ACTIVITIES UNDERTAKEN

A summary of the major construction activities undertaken during the reporting period is provided in *Table 2.1* below.

**Table 2.1** *Construction Activities undertaken during Reporting Period*

Month	CBI
March 2013	<p><b>Main Access Road</b></p> <ul style="list-style-type: none"> <li>• Box culvert construction near completion</li> <li>• Services trenching completed</li> <li>• Road surfacing commenced</li> <li>• Power poles erected near main entrance</li> <li>• Rehabilitation commenced</li> </ul> <p><b>Gas Access Track</b></p> <ul style="list-style-type: none"> <li>• Works completed</li> <li>• Stockpiled tyres removed</li> </ul> <p><b>Primary Project Area</b></p> <ul style="list-style-type: none"> <li>• LNG Tank <ul style="list-style-type: none"> <li>• Raised tank foundation due to high water table</li> <li>• Completed pouring blinding layer</li> <li>• Sheet pile and spear point sump areas prepared for dewatering</li> </ul> </li> <li>• Process Area <ul style="list-style-type: none"> <li>• Excavated to water table and installed spear points in preparation for dewatering</li> </ul> </li> <li>• Car Park <ul style="list-style-type: none"> <li>• Completed laying of asphalt including line marking</li> </ul> </li> <li>• Laydown Areas <ul style="list-style-type: none"> <li>• Completed laydown area at top of car park</li> </ul> </li> <li>• Stormwater Systems <ul style="list-style-type: none"> <li>• Commenced welding sections of HDPE stormwater pipe</li> </ul> </li> </ul> <p><b>AusGrid Easement</b></p> <ul style="list-style-type: none"> <li>• Stockpiled tyres removed</li> </ul> <p><b>Old Punt Road</b></p> <ul style="list-style-type: none"> <li>• Commenced trenching for water service installation</li> </ul> <p><b>TAC Northern Access Road Site Compound</b></p> <ul style="list-style-type: none"> <li>• Constructed temporary storage area for treated acid sulfate soil</li> </ul>
April 2013	<p><b>Main Access Road</b></p> <ul style="list-style-type: none"> <li>• Road construction continued</li> <li>• Revegetation continued</li> </ul>



Month	CBI
	<ul style="list-style-type: none"> <li>• Felled unsafe trees and limbs hanging over road</li> </ul> <p><b>Gas Access Track</b></p> <ul style="list-style-type: none"> <li>• Excavated and transported topsoil and mulch to Main Access Road for revegetation</li> </ul> <p><b>Main Site</b></p> <ul style="list-style-type: none"> <li>• LNG Tank <ul style="list-style-type: none"> <li>• Foundation construction continued</li> </ul> </li> <li>• Process Area <ul style="list-style-type: none"> <li>• Sump dewatering completed</li> <li>• Sump construction continued</li> <li>• Pipeline gantry foundation commenced</li> </ul> </li> <li>• Stormwater Systems <ul style="list-style-type: none"> <li>• Welding and laying of HDPE pipe continued</li> </ul> </li> </ul> <p><b>Old Punt Road</b></p> <ul style="list-style-type: none"> <li>• Trenching continued</li> </ul> <p><b>TAC Northern Access Road Site Compound</b></p> <ul style="list-style-type: none"> <li>• Commenced use of temporary storage area for treated acid sulfate soil</li> </ul>
May 2013	<p><b>Main Access Road</b></p> <ul style="list-style-type: none"> <li>• Road construction continued</li> <li>• Revegetation on north side continued</li> <li>• Fence construction commenced</li> <li>• Underground services installed at TAC road entrance</li> </ul> <p><b>Gas Access Track</b></p> <ul style="list-style-type: none"> <li>• Excavated and transported topsoil and mulch to Main Access Road for revegetation</li> </ul> <p><b>Primary Project Area</b></p> <ul style="list-style-type: none"> <li>• LNG Tank <ul style="list-style-type: none"> <li>• Foundation construction continued</li> <li>• Installation of heater conduits continued</li> <li>• Bund wall construction commenced</li> </ul> </li> <li>• Process Area <ul style="list-style-type: none"> <li>• Sump construction continued</li> <li>• Pipeline gantry foundation continued</li> <li>• Heater foundation works continued</li> </ul> </li> <li>• Car Park <ul style="list-style-type: none"> <li>• Drainage redirection works commenced</li> </ul> </li> <li>• Laydown Area <ul style="list-style-type: none"> <li>• Completed removal of screened soil for bund wall construction</li> </ul> </li> </ul>

Month	CBI
	<ul style="list-style-type: none"> <li>• Underground Services <ul style="list-style-type: none"> <li>• Sealed and repaired inside of stormwater pits</li> <li>• Installation of fire water and potable water services continued</li> </ul> </li> </ul> <p><b>Old Punt Road</b></p> <ul style="list-style-type: none"> <li>• Installed concrete apron in drainage line</li> <li>• Construction of culvert crossing works including trench and installation of water main and stormwater outlet</li> <li>• Trenching and installation of stormwater pipe across road to north side completed</li> </ul>
June 2013	<p><b>Main Access Road</b></p> <ul style="list-style-type: none"> <li>• Road seal completed</li> <li>• Placement of mulch and topsoil on north side completed</li> <li>• Fence construction continued</li> <li>• Fire trail entrance crossings commenced</li> <li>• Underground services installation continued</li> </ul> <p><b>Primary Project Area</b></p> <ul style="list-style-type: none"> <li>• LNG Tank <ul style="list-style-type: none"> <li>• Bund wall sealed with stabilised aggregate</li> <li>• Sump dewatering plans completed</li> </ul> </li> <li>• Process Area <ul style="list-style-type: none"> <li>• Heater foundation completed</li> <li>• Storage tank foundations commenced</li> <li>• Compressor foundation commenced</li> <li>• Amine pre-treatment foundation commenced</li> </ul> </li> <li>• Car Park <ul style="list-style-type: none"> <li>• Commenced construction of drainage redirection to infiltration areas (future holding pond)</li> <li>• Commenced repair to scoured western slopes</li> </ul> </li> <li>• Laydown Area <ul style="list-style-type: none"> <li>• Commenced earthworks to allow spreading of tree root stockpiles over base of laydown area</li> </ul> </li> <li>• Underground Services <ul style="list-style-type: none"> <li>• Electrical and communications conduits installation continued</li> </ul> </li> <li>• Holding Pond <ul style="list-style-type: none"> <li>• Repaired scoured edges</li> <li>• Redirected flow to rock check into pond</li> </ul> </li> </ul> <p><b>Old Punt Road</b></p> <ul style="list-style-type: none"> <li>• Reinstatement of road shoulder to be completed</li> </ul>

Month	CBI
July 2013	<ul style="list-style-type: none"> <li>• Placement of gabion rock in creek downslope of culvert not started due to wet weather</li> </ul> <p><b>Primary Project Area</b></p> <ul style="list-style-type: none"> <li>• LNG Tank Area <ul style="list-style-type: none"> <li>• Sump excavation dewatering completed</li> <li>• Sump construction commenced</li> <li>• Tank floor construction continued</li> </ul> </li> <li>• LNG Process Area <ul style="list-style-type: none"> <li>• Foundation construction continued (near completion)</li> <li>• Underground cable installation commenced</li> </ul> </li> <li>• Holding Pond <ul style="list-style-type: none"> <li>• Used as infiltration area during dewatering of LNG tank sump excavation</li> </ul> </li> </ul> <p><b>Main Access Road</b></p> <ul style="list-style-type: none"> <li>• Opened for construction traffic use</li> <li>• Street lights and transformer installed</li> <li>• Potable water main hydrotest completed</li> <li>• Pressurised stormwater hydrotest system commenced</li> <li>• Minor works ongoing prior to handover to AGL</li> </ul> <p><b>Gas Access Track</b></p> <ul style="list-style-type: none"> <li>• Works completed</li> </ul> <p><b>AusGrid Easement</b></p> <ul style="list-style-type: none"> <li>• Minor works completed for handover to AGL</li> </ul> <p><b>Old Punt Road</b></p> <ul style="list-style-type: none"> <li>• Reinstatement of road shoulder completed</li> <li>• Placement of gabion rock in creek downslope of culvert completed</li> </ul> <p><b>TAC Northern Access Road</b></p> <ul style="list-style-type: none"> <li>• Site compound demobilised</li> <li>• Stockpiles classified as general solid waste removed</li> <li>• Treated acid sulfate soil stockpile area decommissioned and reinstated</li> <li>• Clean-up and minor works completed</li> </ul>
August 2013	<p><b>Main Site</b></p> <ul style="list-style-type: none"> <li>• LNG Tank Area <ul style="list-style-type: none"> <li>• Sump concrete construction complete</li> <li>• Tank floor plate welding continued</li> <li>• Ring 1 erected, welding commenced</li> <li>• Wind girder scaffolding erection commenced</li> <li>• Set up roof section jigs</li> </ul> </li> </ul>

Month	CBI
	<ul style="list-style-type: none"> <li>• LNG Process Area               <ul style="list-style-type: none"> <li>• Foundation construction continued</li> <li>• Holding Pond</li> <li>• Minor reinstatement works complete</li> </ul> </li> <li>• Temporary Compound               <ul style="list-style-type: none"> <li>• Constructed hardstand in lower laydown area</li> <li>• Removed sediment from behind silt controls on north side of lower laydown area</li> <li>• Commenced revegetation of batter slopes</li> <li>• Security fence construction commenced</li> <li>• Upgrade of wastewater holding tank area commenced</li> </ul> </li> </ul> <p><b>Main Access Road</b></p> <ul style="list-style-type: none"> <li>• Connected power to street lights</li> <li>• Preparing telecommunications connections</li> <li>• Potable water main connection at Main Site boundary</li> </ul> <p><b>Old Punt Road</b></p> <ul style="list-style-type: none"> <li>• Completed works in culvert including removal of sandbags from creek</li> <li>• Potable water tie in to HWC mains complete</li> </ul> <p><b>TAC Northern Access Road</b></p> <ul style="list-style-type: none"> <li>• Clean-up and minor works ongoing</li> </ul>

### **3 ENVIRONMENTAL CONTROLS**

#### **3.1 SUMMARY OF ENVIRONMENTAL CONTROLS**

The environmental controls implemented during the reporting period and their effectiveness is listed in *Table 3.1*.

**Table 3.1 CBI Environmental Controls Implemented**

Potential Environmental Impact	Controls Implemented	Effectiveness of Controls
General	<ul style="list-style-type: none"> <li>• Construction Environment Management Plan (CEMP) implemented and complied with.</li> <li>• All approvals and licences obtained and/maintained.</li> <li>• Works undertaken in accordance with licence requirements.</li> <li>• Environmental awareness, inductions and CEMP requirement training undertaken.</li> <li>• Incidents managed in accordance with management procedures.</li> <li>• Works conducted in a manner so as to not cause community complaints.</li> <li>• Qualified and experienced environmental personnel on-site full-time.</li> </ul>	<ul style="list-style-type: none"> <li>• Water extraction licence obtained from the NSW Office of Water (NOW) for groundwater interference works.</li> <li>• Checks against implementation of CEMP completed during Environmental Representative (ER) inspections with minor issues noted and closed out within a week.</li> <li>• Environmental awareness training in the form of inductions, toolboxes and specific issue training carried out during the reporting period.</li> <li>• Incidents managed in accordance with procedures including notification to AGL, Department of Planning and Infrastructure (DP&amp;I), Hunter Water Corporation, Port Stephens Council, ER and EPA as required.</li> </ul>
Groundwater Monitoring	<ul style="list-style-type: none"> <li>• Appropriate vehicle maintenance checks and spill containment equipment adopted to mitigate potential risks of groundwater contamination.</li> <li>• Suitable protection of AGL groundwater monitoring bores during construction.</li> <li>• All amenities wastewater collected and stored before transporting off-site for treatment or disposal.</li> <li>• Construction water supplies sourced from an authorised and reliable supply.</li> <li>• Install groundwater monitoring piezometer downstream of the holding tank for wastewater and regularly sampled for pathogens and nutrients.</li> <li>• Test and treat water generated by dewatering of trenches or excavations as required, and infiltrate back into the groundwater table at designated infiltration areas, or alternatively transport offsite to a licensed disposal facility.</li> </ul>	<ul style="list-style-type: none"> <li>• Vehicles inspected before entering site for leaks, weeds and appropriate maintenance.</li> <li>• Daily prestart checks completed on all vehicles which include check for leaks.</li> <li>• Groundwater bores flagged to prevent accidental damage in field.</li> <li>• Amenities wastewater collected by licensed contractor and disposed to HWC sewage treatment plant.</li> <li>• Water is currently sourced from a HWC standpipe located in the Tomago Industrial Area off Old Punt Road.</li> <li>• Existing groundwater piezometer (MW5) being used monitor for pathogens and nutrients in groundwater down gradient of the wastewater holding tank.</li> <li>• Water from excavation dewatering at LNG Process Area Sump during April infiltrated back into the ground without treatment. Approximately 5ML discharged. Report submitted to NOW via email.</li> </ul>

<b>Potential Environmental Impact</b>	<b>Controls Implemented</b>	<b>Effectiveness of Controls</b>
Surface Water	<ul style="list-style-type: none"> <li>• Construction employees, including contractors required to attend an induction prior to commencing work.</li> <li>• Maintain dedicated refuelling and chemical storage areas.</li> <li>• Regularly inspect erosion control structures and bunded areas.</li> <li>• Ensure silt fences are in a vertical position and securely fixed and remove sediment or residue behind sediment control barriers.</li> <li>• Water sourced from a reliable off site location until onsite water is available.</li> <li>• Access roads are passable by surfacing with aggregate or other material to make them usable by construction traffic.</li> <li>• Store potentially contaminating chemicals in bunded areas capable of capturing 110% of the maximum spill volume.</li> <li>• Construct suitably lined sediment control ponds down-slope of construction work areas.</li> </ul>	<ul style="list-style-type: none"> <li>• Inductions completed for all staff before commencing work.</li> <li>• Plant and equipment refuelling carried out by specialist refuelling contractors.</li> <li>• There is currently no storage of major quantities of chemicals on site.</li> <li>• Spill kits are carried on all light vehicles and machinery.</li> <li>• Environmental Advisor conducts daily and weekly inspection of sediment controls and bunded areas including frequent inspections with the Environmental Manager.</li> <li>• Sediment accumulated behind silt fences is regularly removed.</li> <li>• Water is tankered from Hunter Water Corporation Standpipe in nearby Tomago Industrial area adjacent to Old Punt Rd.</li> <li>• Surface aggregate complete on Gas Access Track and nearing completion on Main Access Road.</li> <li>• Purposes built bunded chemical stores are in use in all areas.</li> <li>• Sediment control ponds were used on the Main Access Road to capture discharge from excavation dewatering.</li> </ul>
Cultural Heritage	<ul style="list-style-type: none"> <li>• Identified Aboriginal or Heritage sites identified on constraints maps with relevant protection measures detailed in the sub plan.</li> <li>• Site personnel made aware of heritage issues during toolbox talks and inductions.</li> <li>• Maintain aboriginal cultural heritage artefacts in a Temporary Keeping Place on site.</li> </ul>	<ul style="list-style-type: none"> <li>• The area has been included in a survey map prepared by CBI's subcontractor.</li> <li>• No further discoveries were made during the reporting period.</li> <li>• Site personnel are made aware of the artefact discovery area through the site induction and subsequent tool box talks.</li> <li>• Artefacts are stored in the CBI site office located on TAC Northern Access Road.</li> </ul>

Potential Environmental Impact	Controls Implemented	Effectiveness of Controls
Vegetation Rehabilitation	<ul style="list-style-type: none"> <li>• Any fencing installed designed so that it is not harmful to wildlife. Fence design considers materials used (non-barbed wire), height of strands and permeability to ensure they are wildlife friendly.</li> <li>• Stripped material or stockpiles formed into small windrows adjacent to the disturbance areas in preparation for replacement during the post development stage.</li> <li>• Windrows of mulch kept as low as possible and have a large surface area, which will maximise the retention of a living seed bank and any associated microbes.</li> <li>• Where possible, hollow logs and dead timber stockpiled for future use. Project Ecologist determined the suitability of logs to be retained.</li> <li>• Weed control achieved by a combination of slashing, mowing and herbicide application.</li> <li>• During-construction, stockpiles inspected for the presence of weed species which may require herbicide application to prevent the contamination of top soil which could increase the risk of weed infestation following topsoil re-spreading.</li> </ul>	<ul style="list-style-type: none"> <li>• Fencing installed to date is plain three strand rural fence type.</li> <li>• Topsoil stockpiles windrowed along Gas Access Track at no higher than 1m.</li> <li>• Weed infested topsoil temporarily stored on the Gas Access Track has been returned in part to the Main Access Road corridor from which it originated including addition of mulch for revegetation.</li> <li>• Mulched material stockpiled along Gas access track for use in rehabilitation. Stockpiles are no higher than 2 metres.</li> <li>• Habitat logs are in place along the Main Access Road and have been positioned as directed by the Project Ecologist.</li> <li>• Weed growth on stockpiles has been observed and weeds have been removed manually to prevent spreading.</li> <li>• Additional weed spraying to follow in coming months.</li> </ul>
Flora and Fauna	<ul style="list-style-type: none"> <li>• Trenches and excavations monitored daily for trapped animals such as reptiles and small ground-dwelling mammals.</li> <li>• Open excavations and trenches inspected for fauna ramps to allow animals that have fallen into the trench to make their way out.</li> <li>• Vegetation trimmed where possible rather than removing it.</li> <li>• Flagging tape, parawebbing or fencing erected to mark “no-go zones” to ensure areas to be protected are clearly defined, identified and avoided.</li> <li>• Noxious and other weeds identified on worksites managed.</li> <li>• Habitat features and resources distributed adjacent to the alignment</li> </ul>	<ul style="list-style-type: none"> <li>• Lace monitors noted on several occasions on mulch stockpiles and trees on access tracks during March 2013.</li> <li>• Kangaroos and wallabies reported on Gas Access Track during May 2013.</li> <li>• One magpie was taken to Motto Farm vet and was later put down during May 2013. The magpie had been struck by a work vehicle on the way to work and was found on the grill of the workers car upon arrival.</li> <li>• There were no trapped animals reported.</li> <li>• Fauna ramps present in open excavations and trenches.</li> </ul>



Potential Environmental Impact	Controls Implemented	Effectiveness of Controls
		<ul style="list-style-type: none"> <li>• Pipelines under construction have ends covered at the end of the day to prevent animals from entering at night.</li> <li>• Project Arborist removed trees in stream before Old Punt Road culvert crossing works commenced.</li> <li>• Rural fencing installed along boundary “no go zones” on the northern Gas Access Track and western side of the Main Site.</li> <li>• No go zones for the remainder of the site are marked by safety tape and parawebbing strung between star pickets.</li> </ul>
Soil Management	<ul style="list-style-type: none"> <li>• Stockpiles of topsoil (which are likely to contain a viable seedbank) to have a maximum height of 1 m.</li> <li>• Stockpiles covered/vegetated where material remained exposed for a long period of time.</li> <li>• Stockpiles placed so that they do not block waterways.</li> <li>• Soils imported to site must be either VENM or be a material that has a Site Specific Exemption approved by EPA.</li> <li>• Soil that is to be disposed to landfill must be assessed in accordance with the NSW DECCW (2009) Waste Classification Guidelines.</li> <li>• Site staff to be trained to identify potentially contaminated soil, suspect imported fill or Acid Sulfate Soil (ASS).</li> <li>• In the event contaminated soil is discovered during excavation, work is to cease until the appropriate management has been undertaken.</li> </ul>	<ul style="list-style-type: none"> <li>• Topsoil stockpiles were hydromulched.</li> <li>• Stockpiles placed away from waterways.</li> <li>• Substantial quantities of stabilised gravel from Martins Creek quarry was imported during the reporting period (VENM).</li> <li>• Stockpiles of trench spoil from TAC Northern Entrance Road classified as general solid waste were removed to landfill.</li> <li>• There were no unexpected finds during the reporting period.</li> </ul>

Potential Environmental Impact	Controls Implemented	Effectiveness of Controls
Acid Sulfate Soil	<ul style="list-style-type: none"> <li>• Excavated ASS stored in conditions that simulate its natural state, or treated and store away from water bodies and drainage lines.</li> <li>• Excavated ASS treated using agricultural lime with machinery sufficient to perform adequate mixing, where practicable.</li> <li>• In areas where ASS is exposed, bunding to be installed to prevent leachate entering the wider environment.</li> <li>• Monitoring of soil quality around project works prior to and during construction to ascertain the presence of contaminated soil or acid sulfate soils.</li> <li>• Store PASS capable of producing leachate within lined bunds.</li> </ul>	<ul style="list-style-type: none"> <li>• ASS was treated with agricultural lime as directed by the Project Environmental Consultant.</li> <li>• Treated ASS was disposed of at landfill as solid waste.</li> <li>• Approval was obtained from HWC and TAC to construct a lined bund area near the site entrance on TAC Northern Access Road to temporarily store treated ASS.</li> <li>• Lined bund constructed but no material added. Bund area has since been decommissioned.</li> <li>• There are no storage areas with material capable of producing ASS leachate.</li> </ul>
Noise and Vibration	<ul style="list-style-type: none"> <li>• Noise generating construction activities restricted 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.</li> <li>• High noise generating activities scheduled for less sensitive times of the day (including periodic respite breaks from noise).</li> <li>• Potential noise receptors consulted (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.</li> <li>• Noise emissions monitored during construction and operations to ensure equipment is meeting noise certification and criteria requirements and detect any faulty or damaged equipment.</li> <li>• Spot check construction noise on the property boundary of Hunter Region Botanic Gardens (HRBG).</li> </ul>	<ul style="list-style-type: none"> <li>• EPL revision approved by EPA to include inaudible out of hours work (OOHW).</li> <li>• NVMP updated and OOHW procedures created for inaudible and audible works.</li> <li>• Plans and procedures reviewed by AGL. Inaudible out of hours work notifications were approved for dewatering and importation of steel during the reporting period.</li> <li>• Vibratory compaction took place on the Main Site during normal working hours.</li> <li>• It was not necessary to consult with noise receptors as OOHW did not have the potential to generate noise audible at the receptors.</li> <li>• Noise check completed during inaudible out of hours work.</li> <li>• No noisy or faulty equipment reported.</li> <li>• Noise monitoring at site boundary and R1 conducted on 28 June and 29 July 2013.</li> </ul>

Potential Environmental Impact	Controls Implemented	Effectiveness of Controls
Air Quality	<ul style="list-style-type: none"> <li>• Discussion on dust sources, impacts and mitigation measures will be incorporated into Project Induction and ongoing Toolbox Talks.</li> <li>• Water sprays and/or water carts used as required for dampening stockpiles, cleared areas and other exposed surfaces to control dust generation.</li> <li>• Disturbed areas stabilised as soon as practicable after completion of construction works.</li> <li>• Construction speed limits established and enforced to ensure dust generation from vehicle movements are minimised.</li> <li>• Loads covered on public roads.</li> <li>• Construction plant, vehicles and machinery maintained to minimise exhaust emissions. Records of maintenance will be kept for all plant, vehicles and machinery used on the project.</li> </ul>	<ul style="list-style-type: none"> <li>• Project inductions and tool box talks included dust mitigation measures.</li> <li>• Water carts in use to control dust during dry periods.</li> <li>• Stabilisation of slopes and batters at Main Site to be completed.</li> <li>• Trucks followed posted site speed limits.</li> <li>• Water trucks sprayed roads regularly.</li> <li>• Loads entering site were covered.</li> <li>• There were no issues with excessive exhaust emissions during the reporting period.</li> </ul>
Waste Management	<ul style="list-style-type: none"> <li>• Recyclable plastics placed into a recycling skip bin for collection by a recycling contractor.</li> <li>• Inductions to construction personnel outline measures on how to deal with suspected contaminated soil.</li> <li>• Waste stored in a protected area away from vermin and inclement weather.</li> <li>• Non-recyclable plastic and domestic waste placed into skip bins for collection by a waste contractor.</li> <li>• Concrete mixers and pump trucks are washed at the site in the designated concrete washout area.</li> <li>• Cardboard boxes placed in a paper recycling skip bin for collection by a recycling contractor.</li> <li>• A waste register to be maintained.</li> </ul>	<ul style="list-style-type: none"> <li>• Recyclables are generally correctly segregated.</li> <li>• Waste is segregated and disposed of appropriately via licensed contractors or directly to licensed landfills.</li> <li>• Toolbox talks conducted outlining waste management requirements when required.</li> <li>• Unexpected find module in environmental induction revised to clarify identification methods.</li> <li>• Waste adequately stored in approved sealed containers in all areas.</li> <li>• Concrete washout skips were used effectively during the reporting period.</li> <li>• Concrete washout liquids recycled at concrete batch plant.</li> <li>• Cardboard recycled.</li> <li>• Waste register maintained for all wastes generated by the Project.</li> <li>• No potentially hazardous material found on site during the reporting period.</li> </ul>

Potential Environmental Impact	Controls Implemented	Effectiveness of Controls
	<ul style="list-style-type: none"> <li>• If the material appears to contain asbestos or other potentially hazardous materials, it is covered and access to the material restricted.</li> <li>• The construction site is fenced and locked to prevent access by others.</li> <li>• If any evidence of illegal dumping of wastes on the Project area is observed the dumped material will be removed immediately.</li> <li>• Monitor diesel usage.</li> </ul>	<ul style="list-style-type: none"> <li>• Security patrolled the site on a 24 hour basis.</li> <li>• There was no evidence of illegal dumping during the reporting period.</li> <li>• 313,838 litres of diesel was consumed from the start of the project in August 2012 to end June 2013.</li> </ul>
Traffic	<ul style="list-style-type: none"> <li>• Speed limits to be observed along routes to and from the site and within the site.</li> <li>• Inform transport operators of details of traffic routes for heavy vehicles, including any necessary route or timing restriction for oversized loads.</li> <li>• Convey expected behavioural requirements for vehicle drivers travelling to and from the site and within the site.</li> </ul>	<ul style="list-style-type: none"> <li>• Heavy vehicle traffic following designated route from Pacific Highway to Old Punt Road.</li> <li>• Speed limit signs posted within the project footprint working effectively.</li> <li>• Workers involved in transport informed of restricted traffic routes in contract agreements and during site induction.</li> </ul>
Dangerous Goods	<ul style="list-style-type: none"> <li>• Dangerous goods containment facilities inspected regularly to ensure their integrity.</li> <li>• Hazardous materials stored according to their material safety data sheet (MSDS).</li> <li>• Received goods are stored immediately and not left on site unattended.</li> </ul>	<ul style="list-style-type: none"> <li>• All DG containers have floor bunding and signage to indicate contents.</li> <li>• CBI and subcontractors segregate chemicals according to MSDS.</li> <li>• All goods received were stored immediately.</li> </ul>
Bush Fire	<ul style="list-style-type: none"> <li>• RFS web site regularly monitored during high fire danger days.</li> <li>• Regularly inspect to ensure fire trails crossing access roads are passable by fire fighting equipment.</li> </ul>	<ul style="list-style-type: none"> <li>• There were no bushfire incidents during the reporting period.</li> <li>• Fire trail access ramps passable by fire services.</li> </ul>
Flood	<ul style="list-style-type: none"> <li>• Potential for flooding monitored by observing weather reports and river levels during potential flood events.</li> </ul>	<ul style="list-style-type: none"> <li>• SES website monitored regularly.</li> <li>• Rainfall levels recorded.</li> </ul>

Potential Environmental Impact	Controls Implemented	Effectiveness of Controls
Spill Incident Response	<ul style="list-style-type: none"> <li>• Regularly inspect for spills and leaks.</li> <li>• Construction equipment inspected daily for leaks.</li> <li>• Construction equipment is parked in designated areas to limit area of risk of soil contamination due to leaks.</li> <li>• Spill kits inspected to ensure they are supplied and maintained on site where chemicals are stored or used.</li> <li>• Spills are cleaned up immediately.</li> </ul>	<ul style="list-style-type: none"> <li>• Minor spills and leaks noted throughout the reporting period.</li> <li>• Mobile construction plant parked in designated areas at the end of the day.</li> <li>• Mobile plant stocked with spill kits.</li> <li>• Stationary spill kits stocked and well maintained in all areas.</li> <li>• All spill kits sealed with quick release zip tie to prevent waste dumping and encourage reporting of spills.</li> <li>• CBI and their subcontractors reported and cleaned up leaks and spillage immediately as noted in the incident register.</li> </ul>

## 3.2 ENVIRONMENTAL INITIATIVES

During the reporting period, CBI has implemented numerous environmental initiatives and innovations. A summary of the key initiatives are discussed below.

### 3.2.1 *Environmental Inspection of Construction Equipment*

During the reporting period environmental inspections were conducted on all incoming construction equipment. This included three Isuzu light trucks, five light vehicles, two concrete pumps and a seven tonne excavator.

### 3.2.2 *Recycling and Waste Management*

A program was introduced to promote the use of recently introduced aerosol can recycling bins and hydrocarbon contaminated soil drums to Main Site personnel to assist with recycling and waste management.

### 3.2.3 *Live Capturing of Fauna*

A program of capturing suspected vermin live was undertaken to verify if a pest or endangered rather than undertaking a baiting program. One bush rat (endangered) captured and released to wild.

## 3.3 TRAINING

The CBI induction covers environment, safety and quality information. Attendance is compulsory prior to working on-site. The induction concentrates on the high risk environmental issues that are described in the CEMP and relate to the works being undertaken by the inductees.

During the reporting period, a total of 239 personnel were inducted. Since the commencement of the project, the total number of inductees is 688.

### 3.3.1 *Toolbox Talks*

Toolbox talks allow for regular communication of relevant environmental issues to the construction staff. The topics of these regular communications are provided in *Table 3.2*. In addition to the toolbox talks Environmental Work Method Statements are regularly communicated with construction teams prior to the commencement of a new activity. This allows construction staff to understand their responsibilities and the industry standard environmental work method for completing the specific activity.

**Table 3.2 Environmental Tool Box Talks during the Reporting Period**

<b>March 2013</b>
<ul style="list-style-type: none"> <li>• Discharge of sediment laden water</li> <li>• General housekeeping regarding rubbish on site</li> <li>• Checking for leaks during pre-start inspections</li> </ul>
<b>April 2013</b>
<ul style="list-style-type: none"> <li>• Dewatering excavations and permit conditions</li> <li>• Placement of quick release zip ties on spill kits</li> <li>• Presented prestart talk to Daracon employees regarding heritage area behind LNG Tanks to reinforce the importance of reporting heritage finds</li> <li>• Bunding of generators and fuel containers</li> <li>• Cultural heritage inspection and discussions on additional artefact finds</li> <li>• Bunding and storage of chemicals</li> <li>• Trenching on Old Punt Road and re-sign onto JSA</li> </ul>
<b>May 2013</b>
<ul style="list-style-type: none"> <li>• Secure site for wet weather (All)</li> <li>• Notify CBI immediately when injured animals are discovered (All)</li> <li>• In-stream works (Ward)</li> <li>• Trenching and surface water management (Ward)</li> <li>• Tree removal (Ward)</li> <li>• Soil treatment and disposal (Ward)</li> <li>• Trenching across Old Punt Road and work on the western side of the culvert (Ward)</li> <li>• MSDS for lime used in ASS treatment including the need for the correct PPE (Ward)</li> <li>• Trenching on Old Punt Road working under the aerials and trenching across cables (Ward)</li> <li>• Waste disposal (Daracon)</li> <li>• Toolbox talk conducted on ASS detection and treatment (Ward)</li> </ul>
<b>June 2013</b>
<ul style="list-style-type: none"> <li>• Housekeeping - removal of oily waste from maintenance area (Daracon)</li> <li>• Recycling and general waste</li> <li>• Energy usage, waste control and recycling (CBI with Ward)</li> <li>• Recycling of aerosol cans</li> </ul>
<b>July 2013</b>
<ul style="list-style-type: none"> <li>• Spill containment and recent local EPA prosecution for sediment release into Hunter River</li> <li>• Recycling, Chemical Approval, Spill Response</li> </ul>
<b>August 2013</b>
<ul style="list-style-type: none"> <li>• Recycling</li> <li>• Wastewater overflow from tank</li> </ul>

In conjunction with toolbox talks, the environmental staff participated in daily prestart meetings to discuss the environmental issues relevant to the days planned work activities. Environmental issues discussed include but are not limited to dust, noise, spill response, waste management and feedback from any incidents or near misses reported.

### 3.3.2 *Other Training*

During the reporting period, the CBI environment team held a workshop 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.

## 4 ENVIRONMENTAL MONITORING

### 4.1 SUMMARY OF ENVIRONMENTAL MONITORING

Environmental monitoring results from the reporting period are provided in *Annex B*. Although outside the reporting period for this Six Monthly Compliance Tracking Report (28 February to 27 August 2013), groundwater and surface water results for January and February 2013 have been included as they were not available at the time of the preparation of the previous Six Monthly Compliance Tracking Report (28 August 2012 to 27 February 2013).

### 4.2 DETAILS AND ANALYSIS OF RESULTS

#### 4.2.1 Noise Monitoring

A total of ten, 15 minute attended noise monitoring events were undertaken from April to August 2013 to assess the noise impact of construction work as it progressed. Monitoring was undertaken within the site boundary at varying distances from construction activities and at the closest sensitive receiver, the southern boundary of the Hunter Region Botanic Gardens (HRBG). A summary of these results are displayed in *Table 4.1* below. Detailed results are provided on *Annex B*.

*Table 4.1 Attended Noise Monitoring Results for Reporting Period*

Date	Time	Location	Predicted L <sub>Aeq</sub> dBA	Noise Goal L <sub>Aeq</sub> (15 min) (dBA)	L <sub>Aeq</sub> (15 min) dBA
30-Apr-2013	12:06 PM	Site boundary	79	-	52.5
30-Apr-2013	12:54 PM	HRBG boundary (R1)	53	60	44.4
30-May-2013	12:10 PM	Site boundary	79	-	65.3
30-May-2013	12:57 PM	HRBG boundary (R1)	53	60	42.1
28-Jun-2013	12:10 PM	Site boundary	79	-	51.2
28-Jun-2013	12:34 PM	HRBG boundary (R1)	53	60	46.5
29-Jul-2013	3:23 PM	Site boundary	79	-	46.3
29-Jul-2013	3:54 PM	HRBG boundary (R1)	53	60	40.0
29-Aug-2013	11:55 AM	Site boundary	79	-	51.7
29-Aug-2013	12:23 PM	HRBG boundary (R1)	53	60	39.2

The monitoring results shows that noise levels at all sites were below the predicted construction noise levels and construction noise goal at R1.

#### 4.2.2 Blasting

No blasting was undertaken during the reporting period.



### 4.2.3 *Air Quality*

No air quality monitoring was undertaken during the reporting period.

### 4.2.4 *Groundwater and Surface Water Monitoring*

Groundwater and surface water monitoring is undertaken monthly at the 'Gas Storage Site', including the access road and the utility and pipeline corridor. Groundwater samples are also collected from the 'Hunter River Area', an area comprising the construction of the gas pipeline, and the crossing of the Hunter River. All water sampling at the two locations is completed by Coffey Geotechnics.

There are six groundwater monitoring bores at the Hunter River Area, and seven groundwater monitoring bores and four surface water monitoring sites at the Gas Storage Site. The locations of the sampling sites are shown in Figures in *Annex B*.

At times, sampling of surface water sampling was impossible as the sampling sites were dry.

The results of the laboratory analysis are provided in *Annex B* and summarised in *Table 4.2* below.

**Table 4.2** *Summary of Groundwater and Surface Water Monitoring Results*

Date	Number of Locations	Outcome	Action Taken <sup>1</sup>
<b>Groundwater</b>			
January 2013	Gas Storage Facility - 7 wells	Measured concentrations of analytes did not exceed the adopted threshold criteria other than: <ul style="list-style-type: none"> <li>total kjeldahl nitrogen (TKN) and total nitrogen at MW3A; and</li> <li>phosphorus at MW6.</li> </ul>	Reasons for increase in nitrogen concentrations and increased phosphorous concentrations not known at this stage. Phosphorous concentrations will be checked in subsequent rounds to assess if this is an anomaly. Monitoring is ongoing. Monitoring report by Coffey's suggests increased nitrogen may be from clearing activities.
	Hunter River Area - 6 wells	Measured concentrations of analytes did not exceed the adopted threshold criteria other than: <ul style="list-style-type: none"> <li>total suspended solids (TSS) in monitoring bore MW8;</li> <li>iron and zinc in monitoring bore MW9;</li> </ul>	Attributed to surrounding industrial land uses. It is noted that the data currently being collected will form part of the baseline data set once construction in the Hunter River area commences.

Date	Number of Locations	Outcome	Action Taken <sup>1</sup>
February 2013	Gas Storage Facility - 7 wells	<ul style="list-style-type: none"> <li>Total nitrogen and total Kjeldahl nitrogen (TKN) in monitoring bore MW1; and</li> <li>TPH C15-C28 in monitoring bore MW13.</li> </ul> <p>Measured concentrations of analytes did not exceed the adopted threshold criteria other than:</p> <ul style="list-style-type: none"> <li>nitrate, nitrogen (total oxidised) and TKN in MW1;</li> <li>TKN and total nitrogen in MW4;</li> <li>Total dissolved solids (TDS) in MW3A; and</li> <li>TPH C15-C28 in MW3A.</li> </ul>	<p>Increase in nitrogen concentration suggested by Coffey's to be a potential result of clearing activities.</p> <p>There is a correlation between electrical conductivity and TDS, and based on the field and laboratory measurement of conductivity, the TDS results appear to be erroneous and should not be considered representative of TDS in MW3A. Monitoring is on-going</p> <p>TPH speciation was carried out for the February sampling event in an attempt to differentiate petroleum hydrocarbons from organic substances. TPH silica-gel clean-up tests have subsequently been used.</p>
March 2013	Hunter River Area - 6 wells	<p>Measured concentrations of analytes did not exceed the adopted threshold criteria other than:</p> <ul style="list-style-type: none"> <li>TPH C15-C28 in monitoring bores MW8 and MW9.</li> </ul>	<p>Attributed to surrounding industrial land uses. TPH speciation indicates TPH is derived from organic sources.</p>
March 2013	Gas Storage Facility - 7 wells	<p>Measured concentrations of analytes did not exceed the adopted threshold criteria other than:</p> <ul style="list-style-type: none"> <li>nitrate and total nitrogen in MW1;</li> <li>TPH C15-C28 in MW2, MW6 and M7; and</li> <li>TPH C29-C36 in MW7.</li> </ul>	<p>Increase in nitrogen concentration suggested by Coffey's to be a potential result of clearing activities. Monitoring is on-going.</p> <p>TPH silica-gel clean-up tests were carried out for the March sampling event in order to differentiate petroleum hydrocarbons from polar organic compounds (i.e. decomposing plant material). Results from the speciation and silica-gel clean-up tests showed concentrations of TPH below the adopted thresholds, which indicates that the TPH identified is derived from organic sources.</p>

Date	Number of Locations	Outcome	Action Taken <sup>1</sup>
April 2013	Hunter River Area - 6 wells	<p>Measured concentrations of analytes did not exceed the adopted threshold criteria other than:</p> <ul style="list-style-type: none"> <li>• TPH C15-C28 in monitoring bores MW8, MW9, MW12, MW13; and</li> <li>• TPH C29-C36 in monitoring bore MW8.</li> </ul>	<p>Attributed to surrounding industrial land uses. TPH silica gel clean-up test showed concentrations of TPH below the adopted thresholds, which indicates that the TPH identified is derived from organic sources.</p>
	Gas Storage Facility - 7 wells	<p>Concentrations of analytes did not exceed adopted threshold criteria other than</p> <ul style="list-style-type: none"> <li>• nitrate, nitrogen (total oxidised) and nitrogen (total) at M6; and</li> <li>• TPH C15-C28 and TPH C29-C36 at MW6 and MW7.</li> </ul>	<p>Increase in nitrogen concentration suggested by Coffey's to be a potential result of clearing activities. Monitoring is on-going.</p> <p>In order to differentiate petroleum hydrocarbons from polar organic compounds (i.e. decomposing plant material), TPH silica gel clean-up tests were carried out. Results from the silica gel clean-up tests showed concentrations of TPH below the adopted thresholds, which indicates that the TPH identified is derived from naturally occurring polar organic sources possibly from vegetation clearing.</p>
May 2013	Hunter River Area - 6 wells	<p>Measured concentrations of analytes did not exceed the adopted threshold criteria other than:</p> <ul style="list-style-type: none"> <li>• arsenic at MW12;</li> <li>• TPH C29-C36 at MW13; and</li> <li>• TPH C10-C36 at MW12 and MW13.</li> </ul>	<p>Attributed to surrounding industrial land uses. TPH silica gel clean-up test showed concentrations of TPH below the adopted thresholds, which indicates that the TPH identified is derived from organic sources.</p>
	Gas Storage Facility - 7 wells	<p>Measured concentrations of analytes did not exceed adopted threshold criteria.</p>	<p>Attributed to surrounding industrial land uses. TPH silica gel clean-up test showed concentrations of TPH below the adopted thresholds, which indicates that the TPH identified is derived from organic sources.</p>

Date	Number of Locations	Outcome	Action Taken <sup>1</sup>
June 2013	Gas Storage Facility - 7 wells	Measured concentrations of analytes did not exceed adopted threshold criteria other than TPH C29-C36 in MW3A.	TPH silica gel clean-up tests were carried out to again differentiate petroleum hydrocarbons from polar organic compounds. Results from the silica gel clean-up tests showed a concentration of TPH below the adopted thresholds, which indicates that the TPH identified is derived from naturally occurring polar organic sources possibly from vegetation clearing.
	Hunter River Area - 6 wells	Measured concentrations of analytes did not exceed the adopted threshold criteria other than: <ul style="list-style-type: none"> <li>• Iron at MW9;</li> <li>• TPH C15-C28 at MW8 and MW13;</li> <li>• TPH C29-C36 at MW8</li> <li>• TPH C10-C36 at MW8, MW9 and MW13..</li> </ul>	Attributed to surrounding industrial land uses. TPH silica gel clean-up test showed concentrations of TPH below the adopted thresholds, which indicates that the TPH identified is derived from organic sources.
<b>Surface Water<sup>1</sup></b>			
January 2013	Four	All monitoring locations dry.	-
February 2013	Four	Measured concentrations of analytes in surface water did not exceed the adopted threshold criteria other than TPH C15-C28 in SW1. SW2 dry.	Results from speciation tests showed concentrations of TPH below the adopted thresholds, which indicates that the TPH identified is derived from organic sources.
March 2013	Four	Measured concentrations of analytes in surface water did not exceed the adopted threshold criteria other than TPH C15-C28 and TPH C29-C36 in SW1	A TPH silica-gel clean-up test carried out showed concentrations of TPH below the adopted thresholds, which indicates that the TPH identified is derived from organic sources.
April 2013	Four	Measured concentrations of analytes in surface water did not exceed the adopted threshold criteria except for: <ul style="list-style-type: none"> <li>• TPH C10-C14 in SW2;</li> <li>• TPH C15-C28 in SW1 and SW2;</li> <li>• TPH C29-C36 in SW1 and SW2; and</li> <li>• TPH C10-C36 in SW1 and SW2</li> </ul>	A TPH silica gel clean-up test carried, which showed concentrations of TPH below the adopted thresholds, which indicates that the TPH identified is derived from organic sources. Monitoring is on-going.
May 2013	Four	Measured concentrations of analytes in surface water did not exceed the adopted threshold criteria.	-

Date	Number of Locations	Outcome	Action Taken <sup>1</sup>
June 2013	Four	Measured concentrations of analytes in surface water did not exceed the adopted threshold criteria except for <ul style="list-style-type: none"> <li>• nitrate and nitrogen (total oxidised) in SW3;</li> <li>• TPH C15-C28 in SW1;</li> <li>• TPH C29-C36 in SW4; and</li> <li>• TPH C10-C36 in SW4.</li> </ul>	Raised nitrogen concentrations may be due to vegetation clearing during the construction of the stormwater drain or due to the additional inflow of nutrient rich water via the drain. A TPH silica gel clean-up test carried, which showed concentrations of TPH below the adopted thresholds, which indicates that the TPH identified is derived from organic sources. Monitoring is on-going.
<ol style="list-style-type: none"> <li>1. Action taken statements are from the Coffeys Geotechnics Groundwater and Surface Water Monitoring Reports.</li> <li>2. The purpose of the monitoring at locations SW3 and SW4 is currently to provide baseline water quality data prior to construction of a stormwater pipeline, which will have an outlet and deliver water to the culvert. Therefore, the results of sampling and analysis for surface water at locations SW3 and SW4 have not been compared with the adopted threshold criteria.</li> </ol>			

The concentrations of water quality parameters at the Gas Storage Site in January to March 2013 were within the adopted threshold criteria (Coffey, May 2013), with the exception of nitrate, nitrogen total, TKN, phosphorous, TPH and/or TDS in five monitoring bores, and TPH in one surface water locations. The concentrations of water quality parameters at the Gas Storage Site from April to June 2013 were within the adopted threshold criteria (Coffey, July 2013), with the exception of nitrate, total nitrogen, total oxidised nitrogen and/or TPH in three monitoring bores and in three surface water locations. The sources of these analytes are not clear. Potential sources for nitrate, nitrogen, TKN, phosphorous and TPH could be vegetation clearing. This will be monitored in subsequent rounds.

The concentrations of water quality parameters for the Hunter River monitoring locations in January to March 2013 were within the adopted threshold criteria (Coffey, May 2013), with the exception of iron, zinc, total nitrogen, TKN, TPH and/or TSS in six monitoring bores. These exceedances may be attributed to surrounding industrial land uses. The concentrations of water quality parameters for the Hunter River from April to June 2013 were within the adopted threshold criteria (Coffey, August 2013), with the exception of arsenic, iron, and TPH. Potential sources of arsenic, iron and naturally occurring polar organic compounds may be attributed to surrounding industrial land uses. The elevated iron results may be partly related to the microbial redox processes occurring within the wetland, particularly in an acid sulfate soil estuarine environment.

Fluctuations in iron levels may arise from natural changes involving redox processes. It is noted that the data currently being collected will form part of the baseline data set once construction in the Hunter River area commences.

#### **4.2.5 *Erosion and Sediment Control***

The high level of soil disturbance and exposure of soil surfaces during the clearing and early construction phase of works has meant that erosion and sediment controls have been a key area of focus. Erosion and Sediment Control Plans (ESCPs) have been implemented and reviewed/adjusted to ensure they are adequate given the current, dynamic nature of the site.

Erosion and sediment controls are inspected weekly and following rainfall events by site environment officers, engineers and foremen.

Refer to *Figure 4.1* for an example of silt fencing and rock checks installed along Main Access Road.



**Figure 4.1** *Silt fencing and rock checks installed along Main Access Road*

At present no sediment basins have been installed.

## 4.2.6 *Heritage*

### *Aboriginal Heritage*

Daily inspections for cultural heritage items are undertaken by site staff. Heritage site inspections and a cultural heritage salvage program were also undertaken by RPS. A monthly summary of cultural heritage inspection outcomes and actions is provided in *Table 4.3* below.

**Table 4.3** *Cultural Heritage Monitoring Results for Reporting Period*

<b>Date</b>	<b>Location</b>	<b>Outcome</b>	<b>Action</b>
March 2013	LNG tank area.	Following a rainfall event, potential cultural heritage fragments became visible.	Fragments were left in place and RPS contacted to arrange inspection. Fragments collected and placed in agreed keeping place.
April 2013	LNG tank area.	Post clearing inspection of spoil from excavated heritage area.	Collection of artefacts by RPS for recording into artefact registers 05/04/2013. Heritage inspection completed by heritage groups 11/04/2013. Fragments collected and placed in agreed keeping place.
June 2013	LNG Tank	Internal spot check for artefacts.	No artefacts discovered
July 2013	LNG Tank and Sub Station Pad	Internal spot check for artefacts.	No artefacts discovered
August 2013	Sub Station Pad	Internal spot check for artefacts.	No artefacts discovered

### *Non-Aboriginal Heritage*

No areas of non-Aboriginal heritage are within the project area.

## 4.2.7 *Flora and Fauna*

No clearing activities were undertaken during the reporting period. No further nest boxes have been installed in the reporting period.

Daily inspections for fauna and weekly inspections for flora, including weeds are undertaken by site staff.

## 5.1

## AUDITS

Two external audits and three internal audits were completed during the reporting period. The details of the audits are outlined in *Table 5.1*

**Table 5.1** *Audits during the Reporting Period*

Type	Date	Undertaken by	Description	NCs /IOs
External	1 March 2013	Project ER	The audit focussed on the following areas: <ul style="list-style-type: none"> <li>• Minister's Conditions of Approval (MCoA)</li> <li>• Statement of Commitments (SoC)</li> <li>• Environmental Protection Licence (EPL)</li> <li>• Construction Environmental Management Plan (CEMP)</li> </ul>	2
Internal	18/04/2013 & 09/05/2013	AGL	The purpose of this audit was: <ul style="list-style-type: none"> <li>• to assess CBI's response to the Improvement Opportunities and Non Compliance Corrective Actions previously reported in the AGL Audit, dated 27 September 2012; and</li> <li>• evaluate the process undertaken by CBI to review and integrate Daracon's EMP.</li> </ul>	8
Internal	01/05/2013	CBI	Analysis of the project's specific state of compliance with applicable CBI corporate requirements at the time of the assessment.	1
External	06/06/2013	Project ER	The audit focused on the implementation of the following plans: <ul style="list-style-type: none"> <li>• Soil Management Sub Plan;</li> <li>• Surface Water Management Sub Plan; and</li> <li>• Acid Sulfate Soil Management Sub Plan.</li> </ul>	13
Internal	15/07/2013	CBI	Analysis of the project's specific state of compliance with applicable CBI corporate requirements at the time of the assessment	3



## 5.2

### *ENVIRONMENTAL INSPECTIONS*

Regular inspections undertaken by the ER generate actions that are communicated to CBI environmental personnel for completion. These inspections are usually completed with CBI and AGL staff. A report is issued at the end of the inspection with an environmental status for the site and list of actions to be addressed. A total of 17 inspections were completed during the reporting period.

In addition to inspections undertaken by the ER, daily and weekly site inspections are undertaken by CBI environmental personnel and fortnightly site inspections are undertaken by AGL.

Actions arising from site inspections are entered in an Action Register which are tracked until completion.

*ENVIRONMENTAL COMPLAINTS*

No complaints have been received during the reporting period. No complaints relating to the project were made to the EPA Pollution Hotline.

## COMPLIANCE STATUS

Monitoring of compliance is required in accordance with CoA B54a. The tracking of compliance occurs throughout the reporting period through internal audits as described in the CEMP.

CBI have recorded zero non – compliances against the project EPL during the applicable reporting period.

Compliance tracking tables are maintained to monitor compliance with the following:

- Ministers Conditions of Approval MP10\_0133 issued 10 May 2012; and
- Statement of Commitments from the Preferred Project Report CR 6023\_1-\_v3 issued September 2011.

These tables are attached as *Annex A* to this Compliance Report.

Findings resulting from external audits are 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.

## 8.1 NON CONFORMANCES AND CORRECTIVE ACTIONS

Table 7.1 provides a summary of the non-conformances and the response undertaken by CBI to close-out the actions.

**Table 8.1 Summary of Non-Compliances Received During the Reporting Period**

Audit Details	NC Description	Response
CBI	Waste bins to be labelled as per CMS procedure	Waste bins labelled.
CBI	Segregate waste as per CMS Universal Waste Management procedure	Site inspections confirms waste segregation has occurred
CBI	Seal spill kits and include inventory inside kits.	Actions completed – site inspections confirm bins are sealed.
CBI	Waste bin labelling to be improved	All waste bins labelled – confirmed during site inspections
AGL	Ensure tracked machines do not track across the stockpiles on the gas access track.	Parawebbing placed at ends of stockpiles to prevent track machine access. Track machines floated in and out of site.
AGL	Ensure topsoil stockpiles are clearly demarcated to avoid mixing with subsoil stockpiles.	Subsoil stockpiles used as fill – remaining stockpiles all topsoil. Signage considered not required.
AGL	CBI to develop training matrix for CBI personnel working on site	Action outstanding
AGL	CBI to consider change to internal audit scope to reflect CBI CEMP audit requirement.	Action outstanding
AGL	CBI to ensure that all incidents are recorded in Register and Cintellate	Action outstanding
AGL	Environmental Response Procedure (170596-EN-P01) needs to be aligned to reporting responsibilities under the CBI PIRMP – currently the procedure specifies timing for external reporting which is not ‘immediate’ as per POEO Act.	Action outstanding
AGL	CBI to confirm that Daracon has made/ accepted CBI comments and changes to their CEMP.	Action outstanding
AGL	CBI to check that Feb, Mar and May Daracon internal audits have been completed.	Action outstanding
ER	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.

Audit Details	NC Description	Response
ER	A copy of the CBI CEMP is included on the website - not all plans required under the MCoA have been loaded onto website. Plans not uploaded include the FFMSP, CHMSP, SWMSP, FERMS, NMSP, ASSMSP and TMSP. Website indicates these are available on request.	Copies of the required plans have now been uploaded onto website
ER	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.
ER	Daracon and Wards complete tests for different parameters and at different frequencies for dewatering.	Dewatering procedure being developed to clarify requirements for future dewatering and infiltration activities.
ER	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
ER	Old Punt Rd works have been completed with a delay noted for stabilising road edges.	Works to roll the edges of the road have now been completed
ER	Installation of controls as per guidance documents with exception of diversion drains along cuts on Main Access Road has not been installed.	Installation of controls have now been installed on the Main Access Rd as per the SMSP
ER	EWMSs are anecdotally reviewed, marked up and comments given to the sub-contractors. No written records are currently maintained.	Actions from review of EWMS and SWMS are loaded into Cintellate. A register is maintained on site listing all documents reviewed to track coverage.
ER	Legislation re movement of soils not included in induction. Topic not include in toolbox talks during audit period.	Topic added into the environmental induction regarding importing and exporting soil to and from site.
ER	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.	AGL added analytes to monitoring program.
ER	Weekly checklist does not include a section on ASS. Review weekly checklist and current commitment in ASSMSP.	Comment on any ASS works will be included in the Weekly Checklist comments section.

Audit Details	NC Description	Response
ER	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
ER	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). Noted
ER	All required records maintained with exception of lime register.	AGL to review requirement to maintain lime register and action accordingly.
ER	Effluent overflow - 15/10/2013 reported to EPA.	All incidents reported to agencies to be reported to DP&I.

## 8.2

### ENVIRONMENTAL INCIDENTS

During the reporting period, two environmental incidents were reported to external parties (refer *Table 8.2* for summary). In addition there was a further 19 hazards reported which primarily included spills under 20 litres. Spills and leaks continue to be raised extensively in daily prestart meetings and weekly tool box talks. Daily equipment and vehicle checks are also completed.

**Table 8.2** *Summary of Environmental Incidents*

Date	Description	Outcome	Reported to external Agencies
06/03/2013	Following heavy rain incident Ward employees were dewatering a sump and discharged water over the silt control fence to adjacent property.	Pumps stopped immediately. Sediment ponds excavated so discharge water transferred could be contained. Dewatering procedures reviewed and re written. Environmental alert posted. Tool box conducted. EPA report generated.	Yes - EPA, HWC, DP&I, NOW, PSC
15/10/2012	Loss of containment. Effluent overflow.	Shut off water supply to site. Pump out effluent tank. Re open ablutions for use. Remove effluent contaminated soil using vacuum tanker. Dispose of spoil to secure landfill. Investigate reason high level alarm was shut off without CBI being notified.	Yes - EPA.

**REFERENCES**

Coffey Geotechnics (May 2013) **Groundwater and Surface Water Monitoring Report January to March 2013 Gas Storage Facility Project - Construction Phase.**

Coffey Geotechnics (July 2013) **Groundwater and Surface Water Monitoring Report April to June 2013 Gas Storage Facility Project - Construction Phase.**

Coffey Geotechnics (May 2013) **Groundwater Monitoring Report January to March 2013 Hunter River Area Newcastle Gas Storage Facility Project**

Coffey Geotechnics (July 2013) **Groundwater Monitoring Report April to June 2013 Hunter River Area Newcastle Gas Storage Facility Project - Pre-construction Phase.**

Annex A

## Compliance Tracking Tables



**Table A1.1 Compliance with Ministers Conditions of Approval MP10\_0133 (dated 10 May 2012)**

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
<b>TERMS OF APPROVAL</b>					
<b>PART A - ADMINISTRATIVE CONDITIONS</b>					
A1	The Proponent shall carry out the project generally in accordance with the: (a) Environmental Assessment;(b) Preferred Project Report;(c) Statement of Commitments; and(d) conditions of this approval. Note: the general layout of the project is shown in Appendix 1	All	AGL CBI	Open	Noted
A2	If there is any inconsistency between the documents in condition A1, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency with the documents listed under condition A1.	All	AGL CBI	Open	Noted
A3	The Proponent shall comply with any reasonable requirement(s) of the Director-General arising from the Department's assessment of:(a) any reports, strategies, plans, programmes, reviews, audits or correspondence that are submitted in accordance with this approval; and(b) the implementation of any actions or measures contained in these documents	All	AGL CBI	Open	Noted

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
<b>LIMITS OF APPROVAL</b>					
A4	This project approval shall lapse five years after the date on which it is granted, unless any works the subject of this approval have physically commenced before that time.	All	AGL	Closed	Project approval date 10 May 2012 Notification letter issued to Anna Timbrell on 28 Aug 12 to advise that clearing has commenced on 27 Aug 12.
A5	The gas pipeline component for the project shall follow corridor option 2 as shown in Figure 1.2 - Conceptual Project Layout in the EA. To avoid any doubt, other corridor options shown in that figure are not approved.	Design	AGL	Compliance Closed	Option 2 has been adopted
<b>STAGING</b>					
A6	Construction of the project may be undertaken in discrete work packages or stages. Where that occurs, these conditions of approval need only be complied with to the extent that they are relevant to that discrete work package or stage. Prior to the commencement of relevant construction or operation activities, the Proponent shall submit a Staging Report to the Director-General which:  (a) describes the stages; and  (b) identifies the relevant conditions of approval for each stage and how these will be addressed across and between the stages of the project.	Pre- construction  Construction	AGL	Compliance Closed	Staging Plan  (Document No: NGSF-WPOE-NAS-PM-PLN-0001). Correspondence to DG submitting report a) 10 stages described (Section 3) b) Appendix 1 includes spread sheet which identifies which approvals apply to each stage

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
A7	With the approval of the Director-General, the Proponent may submit any strategy, plan or programme required by this approval on a progressive basis for discrete work packages or stages.	Pre- construction  Construction	AGL & CBI	Compliance  Closed	Noted - update on submissions to be obtained from AGL as they occur. Plans to be submitted as required for each stage.
<b>STATUTORY REQUIREMENTS</b>					
A8	The Proponent shall ensure that all necessary licences, permits and approvals are obtained and maintained as required throughout the life of the project. No condition of this approval removes the obligation of the Proponent to obtain, renew or comply with such licences, permits or approvals. The Proponent shall ensure that a copy of this approval and all relevant environmental approvals are available on the site at all times during the project.	All	AGL & CBI	Compliance  Open	EPBC Approval obtained (2010-5752) 18 July 2012  EPL20130 issued to CBI for chemical storage and petroleum and fuel production 10 July 2012  Construction Certificate received Friday 29 <sup>th</sup> September 2012.  Copies of EPL and MCoA in site office (Wards and CBI).
<b>COMPLIANCE</b>					
A9	The Proponent shall ensure that employees, contractors and sub-contractors, and visitors are aware of, and comply with, the conditions of this approval relevant to their respective activities.	All	CBI	Compliance  On-going	General induction attended 15 August 2012 includes some aspects of approval - refer CEMP and Sub-Plan Induction and Training commitments for further details.  Review of Daily prestarts and toolbox register confirms primary environmental aspects for project are discussed including waste management, spills, erosion and sediment control, awareness of site fauna.

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
					CBI develop SWMS which include commitments and relevant approval conditions for work tasks which are issued to sub-contractors.
<b>PUBLICLY AVAILABLE INFORMATION</b>					
A10	Subject to confidentiality, the Proponent shall make all documents required under this approval available for public inspection on request	Pre- construction  Construction	AGL/CBI	Compliance  On-going	Plans approved by DP&I - CBI CEMP and sub plans loaded onto website.  Plans developed for next stages of works to be uploaded once approved by DP&I
<b>STRUCTURAL ADEQUACY</b>					
A11	The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA. For the purpose of section 75S(2)(b) of the Act, the relevant provisions, as defined in section 75S(1A) of the Act apply to this approval.	Pre- construction  Construction	CBI	Compliance  Open	Schedule 3, Basis of Design, Appendix C Section 75S(2)(b) requires private certifier to sign off on buildings/structures. AGL has engaged the services of Barker Ryan Stewart a Newcastle-based multidisciplinary town planning, engineering and private certification consultancy to assist AGL in satisfying the certification requirements for the project. Barker Ryan Stewart has in turn engaged the local firm NewCert as the Principal Certifying Authority. Stage 1 Site Preparation by NewCert (12-059 ) received 23-Aug-12. Stages 2 & 3 (12-106) received 6-Nov-12. Stage 4A (13-032) received 27-Mar-13. Stage 4B (13-053) received 29-May-13.

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
<b>SUBDIVISION</b>					
A12	In undertaking the subdivision approved under this approval, the Proponent must comply with the requirements of the Environmental Planning and Assessment Act 1979 relating to the issue of a Subdivision Certificate (the relevant provisions referred to under section 75S(2)(b) of the Act, which continues to apply to the project).	Pre-construction	AGL	Compliance Closed	Survey Plan – Subdivision of Lot 105 DP 1125747 and easement over Lot 4 DP 1043561 – survey dated 27 March 2012
A13	The Proponent shall consult with and address all reasonable requirements of Port Stephens Council in preparing its application for a Subdivision Certificate for the project.	Pre-construction	AGL	Compliance Closed	Email to PSC 29 Dec 2012 with subdivision plan and s88B instrument attached. PSC reply from Amanda Gale 6 January 2012 stating 88B instrument and Linen Plan provide an easement which legally satisfies the concern made by Council.
<b>OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT</b>					
A14	The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation or rehabilitation of the project.	All	AGL - operation and rehabilitation stage CBI - construction stage	Noted On-going	Noted - all management plans with implementation to be monitored during activities. Quarterly ER audits include assessment of implementation of plans.

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
<b>INCIDENT REPORTING</b>					
A15	The Proponent shall notify the Director-General and any other relevant agencies of any incident associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within seven days of becoming aware of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident.	All	CBI to notify immediately as per POEO Act requirements  AGL to liaise with agencies after initial notification	NC-2  Open	1 incident reported to EPA and PSC 06/03/2013 (discharge of turbid water from excavation).  1 incident reported to EPA for effluent overflow on 15/10/2013.  Reporting requirements met for both incidents to EPA. Neither incident was considered to trigger immediate reporting to DP&I. Will be included in 6 monthly compliance report (this report).  NC-2: always notify DP&I immediately if any other agencies notified.
A16	The Proponent shall meet the requirements of the Director-General to address the cause or impact of any incident, as it relates to this approval, reported in accordance with condition A15 of this approval, within such period as the Director-General may require.	All	CBI - implementation  AGL - active governance over corrective actions taken by CBI	Compliance  Open	Corrective actions proposed for both incidents which occurred during reporting period have been completed. All incident and corrective actions tracked through an Action Register (170596-EN-R04). Addition of priority levels and dates for completion to this register has assisted with focussing attention on higher risk issues and actions.

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
<b>PART B - PRIOR TO AND DURING CONSTRUCTION</b>					
<b>BIODIVERSITY</b>					
B1	The Proponent shall employ a suitably-qualified ecologist to attend site clearing and vegetation removal works, and any activities with the potential to directly or indirectly impact on the biodiversity of the project site or surrounding land during construction. The ecologist shall be employed for the purpose of identifying and advising on potential ecological impacts, including appropriate mitigation and management, as required under these conditions of approval.	Pre-construction Construction	AGL	Compliance Closed - CBI	Shawn Capararo from ecoBiological appointed FFMSP - Appendix B, Table 8-1 (general Construction), Table 8-6 (Pre-clearing Protocol) and Table 8-9 (Vegetation Clearing Protocol)
<b>Management of Impacts on Flora</b>					
B2	The Proponent shall take reasonable and feasible steps to minimise the area of native vegetation clearing required for the project. Areas of vegetation to be cleared as part of the project shall be clearly demarcated prior to the commencement of clearing activities. Procedures for the minimisation and management of vegetation clearing shall be detailed in the Flora and Fauna Management Plan required under condition B57.	Pre clearing	AGL to engage ecologist CBI	Compliance Closed - CBI	AGL received letter from ecoBiological on 14-May-12 outlining steps taken to comply with the condition. The Flora & Fauna Management Sub Plan contains details on clearing. The FFMSP has been submitted to the Director-General as part of the CEMP and approved Site inspections over period indicate site boundaries marked with pink tape and/or parawebbing to prevent further clearing. Clearing limited to marked areas.

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
B3	<p>The Proponent shall construct the project in a manner that avoids direct and indirect impacts to those areas mapped as “(4) – Freshwater Wetland Complex” and “(7) – Phragmites Rushland” in Figure 7 – Vegetation Communities in Ecological Assessment: Newcastle Gas Storage Facility Project (ecoBiological, May 2011), included as Appendix 7 to the EA. The suitably-qualified ecologist required under condition B1 shall be engaged for the purpose of advising on measures to avoid potential direct or indirect impacts.</p>	<p>Pre-construction - Stage 2  Construction</p>	<p>AGL  CBI</p>	<p>NA  Open</p>	<p>Letter from EcoBiological dated 01-Dec-12 confirming work has been completed for Stage 1.</p> <p>Vegetation communities map included as Figure 1 in FFMSP</p> <p>The areas referred to in this condition are relevant to the pipeline construction and crossing over the Hunter River which is part of Stage 2 therefore will be include in the management phase for this phase of the works.</p>
B4	<p>Prior to the commencement of construction, appropriately timed and targeted surveys should be undertaken to determine the absence/presence of the following taxa for which general baseline vegetation surveys are not considered appropriate:</p> <p>(a) Tall Knot-weed (<i>Persicaria elatior</i>);</p> <p>(b) Small Water-ribbons (<i>Maundia triglochinos</i>); and</p> <p>(c) Horned Pondweed (<i>Zannichellia palustris</i>).</p> <p>Any impacts on these taxa must be included the Biodiversity Offset Strategy under condition B13 and Biodiversity Offset Package under condition C2.</p>	<p>Pre-construction</p>	<p>AGL</p>	<p>Compliance  Closed</p>	<p>Letter from ecoBiological on 14-February-12 confirming the survey work undertaken and compliance with this condition.</p> <p>Offset Strategy report prepared by ecoBiological dated May 2012,</p> <p>Medowie Conservation Area Offset Monitoring Protocol prepared by ecoBiological dated May 2012,</p> <p>Also refer to correspondence to OEHL and PSC dated 1-Jun-12 as evidence of consultation with both OEHL and PSC.</p> <p>20-June: Refer to additional correspondence from PSC as evidence of consultation.</p> <p>15-Aug-12: Approval received from the Director General.</p>



Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
B5	Prior to the commencement of vegetation clearing works, the site shall be subject to further confirmatory survey work to determine the number of Earp's Gum individuals to be removed. The number, quality and extent of these individuals shall be used to inform the Biodiversity Offset Strategy under condition B13 and Biodiversity Offset Package under condition C2.	Pre-clearing	AGL	Compliance Closed - CBI	Letter from ecoBiological on 14-May-12 confirming the survey work undertaken and compliance with this condition.  FFMSP - Table 8-10
B6	Prior to the commencement of vegetation clearing works, the site shall be subject to further confirmatory survey work to determine the hollow-bearing trees to be removed. The number and quality of these tree hollows shall be used to inform the Biodiversity Offset Strategy under condition B13 and Biodiversity Offset Package under condition C2.	Pre-clearing	AGL	Compliance Closed - CBI	Letter from ecoBiological on 14-May-12 confirming the survey work undertaken and compliance with this condition.  FFMSP - Table 8-7
B7	With the exception of clearing necessary for the gas pipeline access corridor, and access road and utility corridor, on the site, the Proponent shall ensure that vegetation mapped as "Preferred Koala Habitat" in Figure 12 - Revised Koala Habitat Mapping in Ecological Assessment: Newcastle Gas Storage Facility Project (ecoBiological, May 2011), included as Appendix 7 to the EA, is not directly or indirectly affected in the carrying out of the project.	Pre- construction Construction	AGL CBI	Compliance Closed - CBI	CEMP - Appendix A6 includes environmental constraints map. FFMSP -Appendix B, Tables 8-9 & 8-12 Site inspections confirm construction area delineated with temporary fencing. Clearing works now completed for Stage 1 with all clearing within Project Footprint

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
<b>Riparian Areas</b>					
B8	Prior to the commencement of works with the potential to directly or indirectly affect riparian areas, the Proponent shall engage a suitably-qualified ecologist (required under condition B1) to survey and record the condition of those potentially-affected areas.	Pre-clearing - Stage 2	AGL	Compliance Closed - CBI	Primarily refers to Stage 2 of the Project. There is one culvert crossing for this stage therefore reference to this condition is required. Shawn Capararo from Ecobiological engaged for all pre construction works including riparian works.  Letter from Ecobiological on 14-May-12 confirming the survey work undertaken and compliance with this condition.
B9	Within six months of the conclusion of construction activities directly or indirectly affecting riparian areas, the Proponent shall implement a programme to rehabilitate those areas to a standard of equal or better condition than surveyed under condition B8, unless otherwise agreed by the Director-General. Riparian rehabilitation works shall be undertaken in consultation with NOW and DPI (Fisheries).	Pre- construction Construction	AGL	NA Open	VRMSP includes requirement in Table 8-5  No riparian areas cleared to date. Works yet to commence for Stage 2.
B10	Unless otherwise agreed by the Director-General, the Proponent shall monitor and maintain the condition of rehabilitated riparian areas until such time as those areas have been verified by a suitably-qualified ecologist (required under condition B1) as being well-established, in good health and self-sustaining.	Pre- construction Construction	AGL	NA Open	VRMSP includes requirement in Table 8-5  No riparian areas cleared to date.

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
<b>Management of Impacts on Fauna</b>					
B11	Prior to the commencement of vegetation clearing works in the site, the site shall be subject to survey work to identify the presence of Koala ( <i>Phascolarctos cinereus</i> ) individuals. All Koala individuals identified on the site shall be allowed to self-translocate in the first instance prior to any other translocation methods being considered. If self-translocation proves impracticable, human-assisted translocation will be conducted and the Koalas located on the gas storage facility site shall be translocated to an appropriate, safe location off-site. Survey and translocation of Koala individuals shall be conducted in accordance with the Port Stephens Comprehensive Koala Plan of Management and to meet the requirements of the OEH. If human-assisted translocation is conducted, it shall be undertaken by a suitably qualified and experienced ecologist in Koala management and in accordance with Policy for the Translocation of Threatened Fauna in NSW (NPWS, 2001).	Pre-clearing	AGL CBI	Compliance Closed - CBI	FFMSP - Appendix B Table 8-12 No koalas reported to be encountered during clearing works (Report: Vegetation Clearing for Newcastle Gas Storage Facility, Ecobiological (November 2012)). Clearing activities completed for Stage 1
B12	Prior to the commencement of vegetation clearing and construction works, the Proponent shall demonstrate that it has undertaken a programme of trapping on the gas storage facility site with the aim of collecting any New Holland Mouse ( <i>Pseudomys novaehollandiae</i> ) individuals. All New Holland Mouse individuals shall be translocated to an appropriate, safe location off-site. Trapping, collection and translocation of New Holland Mouse individuals shall meet the requirements of any guidelines issued by DSEWPac.	Pre-clearing	AGL CBI	Compliance Closed - CBI	Trapping program outlined in the FFMSP Appendix B Table 8-11 Trapping completed prior to clearing works at four locations covering three different periods. No New Holland Mouse individuals were trapped (Report: Vegetation Clearing for Newcastle Gas Storage Facility, Ecobiological (November 2012)).

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
<b>Biodiversity Offsets</b>					
B13	<p>Prior to the commencement of vegetation clearing or construction works, the Proponent shall prepare a Biodiversity Offset Strategy in consultation with the OEH and Port Stephens Council, and for the approval of the Director-General. The purpose of the Strategy shall be to provide high-level direction to guide the development of the Biodiversity Offset Package required under condition C2. The Biodiversity Offset Strategy shall be prepared by a suitably-qualified ecologist consistent with the Biobanking Methodology under the Biobanking and Offsets Scheme outlined in Biobanking Assessment Methodology and Credit Calculator Operational Manual (DECC, 2009), and shall include:</p> <p>(a) consideration of all native vegetation losses and the adequacy of the proposed offset;</p> <p>(b) an offset area for the Earp's Gum commensurate with the area occupied by the Earp's Gum individuals to be removed from the site, and including successful planting of Eucalyptus parramattensis subsp. decadens trees at a ratio of at least 3:1 and the maintaining of these trees until established.</p> <p>(c) an offset ratio for tree hollows of no less than 1:1, to be delivered through nest boxes or other measures agreed with the OEH;</p> <p>(d) habitat offset measures for Koalas (<i>Phascolarctos cinereus</i>) and New Holland Mouse (<i>Pseudomys novaehollandiae</i>);</p>	Pre-clearing Pre- construction	AGL	Compliance Closed	<p>Offset Strategy report prepared by ecoBiological dated May 2012</p> <p>Medowie Conservation Area Offset Monitoring Protocol prepared by ecoBiological dated May 2012</p> <p>Draft Conservation Agreement for Lot 20 at 3 Old Swan Bay Road, Medowie</p> <p>Draft Conservation Agreement for Lot 16 at 218 Old Swan Bay Road, Medowie.</p> <p>Offset Strategy Report:</p> <p>a) Refer Section 3.1 and 3.3</p> <p>b) Refer Chapter 4. Four Earp's gums to be replaced. Target of 60 plants established with OEH. Hunter Region Botanic Gardens have identified areas suitable for planting</p> <p>c) As agreed by OEH two large offset areas identified have adequate hollow bearing trees available to mitigate need for nest boxes</p> <p>d) Koala - 11.8ha offset area provided to offset loss of 0.7ha. New Holland Mouse - 25 ha preferred habitat and 80ha sub optimal habitat to replace 12ha sub optimal habitat</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
	<p>(e) demonstration of how the offset would 'improve or maintain' biodiversity values;</p> <p>(f) the proposed offset ratios and connectivity improvements;</p> <p>(g) proposed management actions;</p> <p>(h) demonstration of how the strategy was prepared in accordance with the OEH's Principles for the Use of Biodiversity Offsets in NSW; and</p> <p>(i) measures to ensure in-perpetuity the conservation commitment.</p>				<p>e) Refer Chapter 5 - improvement of biodiversity values in offset areas</p> <p>f) Refer Chapter 3</p> <p>g) Contained within Voluntary Conservation Agreements</p> <p>h) 13 principles addressed in Chapter 5</p> <p>i) Refer Chapter 3 and Chapter 5</p> <p>Correspondence from DP&amp;I accepting Strategy</p> <p>AGL submitted Strategy to PSC via email on 01.06.12, and PSC emailed DP&amp;I on 13.6.12 indicating that they had been consulted, and provided comments.</p> <p>OEH emailed DP&amp;I on 01.06.12 advising that they had been consulted.</p>
<b>HAZARDS AND RISKS</b>					
B14	<p>The Proponent shall establish and maintain Asset Protection Zones around the project, being no less than 25 metres around the gas plant site and no less than 31 metres around the processing plant and storage tank. The Earp's Gum individuals are to be retained within the asset protection zones where appropriate canopy distances exist. The understory in the vicinity of retained Earp's Gum individuals is to be appropriately managed to minimise fire risk. Details shall be incorporated into the Fire Safety Study required under B16(a).</p>	Pre- construction Construction	CBI - design AGL - review	Compliance Closed	<p>Included in FFMSPP Appendix B Table 8-5 Bush Fire</p> <p>Included in Fire Safety Study - Section 5.4.1</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
B15	<p>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.</p> <p>In the event of an inconsistency between the requirements listed from (a) to (b) above, the most stringent requirement shall prevail to the extent of the inconsistency.</p>	Construction	CBI	Compliance On-going	<p>Dangerous Goods and Hazardous Materials Handling Management Sub-Plan Section 1.5.2</p> <p>Minor amounts of fuel and oils currently kept on site. Site inspections indicate small fuel cans are stored on self-contained bunds. Refuelling done primarily by licensed refuelling truck. Spill kits noted on all vehicles inspected.</p> <p>Form completed prior to any chemicals coming onto sight with approval by CBI Environment Manager and Safety Manager required.</p> <p>MSDSs and register maintained on ChemWatch. Register downloaded and added to MSDS folder.</p>
B16	<p>At least one month prior to the commencement of construction of the project, except for construction of those preliminary works that are outside the scope of the hazard studies (including such works as vegetation clearing and site preparation which would not influence or pre-empt the outcomes of the hazards studies), or within such further period as the Director-General may agree, the Proponent shall prepare and submit for the approval of the Director-General the following studies:</p> <p>(a) A <b>Fire Safety Study</b> prepared in accordance with and covering the relevant aspects in Hazardous Industry Planning Advisory Paper No. 2 - Fire Safety Study Guidelines (DoP, 2011) and Best Practice Guidelines for Contaminated Water Retention and Treatment Systems (NSW Government, 1994).</p>	Pre-construction	<p>a) AGL</p> <p>b) CBI</p> <p>c) AGL</p>	Compliance Open	<p>Letter to DP&amp;I dated 19 June 2012 requesting approval to stage Fire Safety Study (FSS), Hazard and Operability Study (HAZOP), Final Hazard Analysis (FHA).</p> <p>Stage 1 - HAZOP, FSS and FHA August 2012 based on final design</p> <p>Stage 2 - update based on final designs - January 2013</p> <p>Letter from DP&amp;I dated 6 August 2012 approving staged approach with following requirements:</p> <p>1. The HAZOP for the second stage should cover the interaction with already installed equipment;</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
	<p>The study shall also be submitted for approval to Fire and Rescue NSW and to the Rural Fire Service;</p> <p>(b) A <b>Hazard and Operability Study</b> for the project, chaired by a qualified person, independent of the project, approved by the Director-General prior to the commencement of the study. The study shall be consistent with the Department of Planning and Infrastructure's Hazardous Industry Planning Advisory Paper No. 8 - HAZOP Guidelines (DoP, 2011). The study report shall be accompanied by a programme for the implementation of all recommendations made in the report. If the Proponent intends to defer the implementation of a recommendation, reasons must be documented and justified; and</p> <p>(c) A <b>Final Hazard Analysis</b> of the project, consistent with Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011). The FHA shall report on the implementations of the recommendations of the Preliminary Hazard Analysis.</p> <p>Construction, other than of preliminary works (including such works as vegetation clearing and site preparation which would not influence or pre-empt the outcomes of the hazards studies), shall not commence until approval under this condition has been given by the Director-General and, with respect to the Fire Safety Study, approval has also been given by Fire and Rescue NSW and the Rural Fire Service.</p>				<p>2. The FSS for the second stage should be an update on the FSS for the first stage. (The site must have a single FSS covering the whole site.)</p> <p>3. The FHA for the second stage should be an update of the FHA for the first stage. (As with the FSS, a single document must cover the whole site.)</p> <p>Meeting with RFS to discuss FSS scheduled 4 September 2012</p> <p>Letter dated 19-June requesting for approval of a staged approach to the HAZOP Study, Fire Safety Study and Final Hazard Analysis Process</p> <p>6-Aug-12: Approval received from Director General for the proposed staged submission approach.</p> <p>28-Nov-12: Submission of Phase 1 Fire Safety Study and Hazop Report to DP&amp;I.</p> <p>10-Dec-12: Submission of Phase 1 Final Hazard Analysis to DP&amp;I</p> <p>19-Dec-12: Phase 1 Fire Safety Study approved by Rural Fire Service.</p> <p>17-Jan-13: Phase 1 submission approved by DP&amp;I.</p> <p>5-Feb-13: Phase 1 Fire Safety Study approval by Fire &amp; Rescue NSW</p> <p>22-Apr-13: Approval of Hugh Howard as HAZOP facilitator for Jemena Connection Works.</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
					6-Jun-13: Meeting held with FRNSW to discuss proposed mitigation to comments provided in February.
B17	Prior to the commencement of the detailed design of the project, the Proponent shall consult with WorkCover with regard to complying with the regulations applicable to Major Hazard Facilities and shall obtain requirements for the preparation of the Site Risk Assessment and the Safety Case. The Proponent shall comply with all requirements issued by WorkCover.	Pre-detailed design	AGL CBI to assist	Compliance Closed	Meeting held with WorkCover on 18-April-2012. Refer to minutes of meeting. Requirements to be checked if included in Site Risk Assessment and Safety Case six months prior to commissioning of project NGSF determined as a Major Hazard Facility by WorkCover in letter dated 19-Oct-2012. 15-Feb-13: Safety Case outline submitted to WorkCover. 10-May-13: Revision 1 of Safety Case Outline submitted to WorkCover
B18	The Safety Case shall be prepared by the Proponent under the Major Hazard Facilities legislation and shall be submitted to WorkCover no later than six months prior to the commissioning of the project, or as otherwise agreed by WorkCover.	Construction Pre commissioning	AGL CBI to assist	Compliance Open	Safety Case to be prepared six months prior to commissioning 15-Feb-13: Safety Case outline submitted to WorkCover. 10-May-13: Revision 1 of Safety Case Outline submitted to WorkCover



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<b>DESIGN PRINCIPLES</b>					
B19	Buildings and car parking associated with the proposed development should be designed with consideration to the general principles and objectives of Crime Prevention through Environmental Design (Australian Institute of Criminology, 1989).	Design	CBI	Compliance  Closed	Final design includes following: <ul style="list-style-type: none"> <li>• Security fence (with barbed wire) around the facility complying with AS 1725.1-2010 (drawing NGSF-CBI-ISBL-CI-DWG-5001)</li> <li>• CCTV cameras strategically positioned around the security fence and at the plant entry gate (drawing NGSF-CBI-ISBL-IC-DWG-9010) all communicating with the CCTV viewing station in the control building. All cameras are continuously recorded for up to 30 days.</li> <li>• Intrusion detection located all the way around the security fence (drawing NGSF-CBI-ISBL-IC-DWG-9020) communicating with the control room. The intrusion system is divided into zones approximately 100 meters in length that can signal the cameras to focus on the active zone</li> <li>• Card operated sliding security gates at the plant entry on the main access road as well as at the main entrance gate with CCTV cameras monitoring all of these entry points.</li> <li>• Besides the vehicle entry sliding gates, there is only 1 personnel point of access into the admin building and this requires a key card to get beyond the reception area.</li> </ul>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
					<ul style="list-style-type: none"> <li>• Car park is within sight from the admin/control building.</li> <li>• High pressure sodium roadway lighting will be provided for perimeter roads. High pressure sodium floodlights will be provided for the plant boundaries near the LNG tank. Both the roadway and floodlighting layouts will be designed to maintain an average illumination level of 2 lux at ground for the entire security fence line.</li> </ul>
<b>SOILS, WATER AND HYDROLOGY</b>					
B20	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 Act 1997 during construction of the project.	Pre-construction Construction	CBI	Compliance Open	Refer Surface Water Management Sub Plan and Soil Management Sub Plan.  Included in EPL as Condition L1  One incident potentially polluting waters during reporting period (turbid water discharge from excavation) which has been reported and investigated as per incident reporting protocol (refer Condition A15). No impacts to environment observed – arborist inspected trees in area with no impacts observed.
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.	Pre-construction Construction	CBI	Compliance Open	Refer Section 9 of the Soil Management Plan Sub Plan  Site inspections indicate silt fences installed around site boundaries after clearing works. Additional controls installed as required

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B22	The Proponent shall carry out rehabilitation of disturbed areas progressively, and as soon as reasonably practicable following disturbance.	Pre- construction  Construction	AGL  CBI to advise when works completed and ready for rehabilitation	NA  Open	Refer to Vegetation Rehabilitation Management Sub Plan Appendix B - Table 8-5  Rehabilitation works have commenced. Logs for rehabilitation placed along cleared tracks, mulch retained and topsoil stored along gas access track.  Logs emplaced, areas spray grassed and stabilised along Main Access Track. Northern and eastern sides of the bund wall to be vegetated once bund wall construction is complete.
<b>Construction Method</b>					
B23	The Proponent shall apply the gas pipeline corridor construction methods generally in accordance with Table 2.2 of the PPR, at the locations specified.	Pre- construction  Construction	AGL	NA  Open	Gas pipeline installation yet to commence
<b>Flooding</b>					
B24	The Proponent shall ensure that all structures to be constructed below known flood planning levels are constructed of materials and with finishes that are resistant to floodwaters/ tides. Construction of the project shall be undertaken in accordance with the NSW Flood Plain Development Manual (DIPNR, 2005).	Pre- construction  Construction	AGL	Compliance  Open	Gas Storage Facility Design above 1 in 100 year flood levels.  Roads and structures as constructed drawings to confirm final levels once works finished.

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
<i>Groundwater Monitoring Program</i>					
B25	<p>Prior to the commencement of construction, the Proponent shall develop a Groundwater Monitoring Programme in consultation with NOW and HWC and to the satisfaction of the Director-General. The programme shall detail the monitoring strategy that would be implemented to monitor the water quality impacts of the project on beneficial aquifers (including associated groundwater users, surface waters and groundwater dependent ecosystems). The programme shall:</p> <p>(a) identify surface and groundwater monitoring locations demonstrating their appropriateness for obtaining representative water quality and water level data on construction and operational impacts in relation to beneficial aquifers, groundwater users and surface waters</p> <p>(b) provide details of the monitoring points (including location, depth of monitoring, duration and frequency of monitoring and parameters to be monitored);</p> <p>(c) identify performance criteria, including monitoring criteria to detect early indicators of drawdown impacts or water quality impacts to beneficial aquifers;</p> <p>(d) identify the frequency of reporting on monitoring results;</p> <p>(e) identify procedures for contingency or remedial action where adverse impacts are identified, such that the adverse impacts are remediated prior to any impact to other groundwater users, and/</p>	Pre-construction	AGL	Compliance Closed - CBI	<p>Groundwater Management Sub Plan – sent in email to DP&amp;I dated 11 July 2012</p> <p>Groundwater Monitoring Program – letter from DP&amp;I dated 10/08/2012 accepting GMP. Correspondence from HWC dated 3 August 2012 and NOW dated 9 August 2012 supporting consultation requirement.</p> <p>Email from HWC 31 October 2012 indicating satisfaction with GMSP.</p> <p>Email to DP&amp;I 9 August 2012 with correspondence attached endorsing GMSP from NOW</p> <p>a) GMSP - Groundwater monitoring bore locations – Figure 3. Also refer to Table 2-1. One background and 5 downstream locations (towards Tomago aquifer extraction site) 4 internal locations to obtain background for site. Surface water monitoring locations include in surface water management plan GMP – Section 4</p> <p>b) GMSP - Appendix C includes baseline water quality, depth. Duration and frequency of monitoring include in Table 5-2 Groundwater Monitoring Requirements GMP – Section 4</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
	<p>or rehabilitation measures applied where the project is identified as adversely affecting any groundwater dependent ecosystems/ communities; and</p> <p>(f) identify mechanisms for the regular review and update of the programme in consultation with NOW and HWC as required.</p> <p>In submitting the programme for the Director General's approval, the Proponent shall provide written evidence of consultation with NOW and HWC on the robustness and acceptability of the monitoring programme, including issues raised by these agencies and how these have been addressed. The programme shall be reviewed and updated at the conclusion of construction activities.</p>				<p>c) GMSP - Performance criteria included in Section 5.1.1 for water quality and changes in water levels (using CUMSUM) GMP - Section 4.2 and Appendix A</p> <p>d) GMSP - Frequency of reporting include in Table 5-1 GMP - Section 4.1</p> <p>e) GMSP - Contingency Plan Flowchart Figure 5 and Appendix E for spills GMP - Section 4.3</p> <p>f) GMSP - Section 3 and Section 5</p> <p>g) GMP - Section 4.4</p>
<b>Stormwater Management</b>					
B26	<p>Prior to the commencement of construction, the Proponent shall engage an independent and suitably qualified expert to the satisfaction of HWC, to undertake peer reviews of the design, construction and Open maintenance of the stormwater management system. The reviews shall:</p> <p>(a) provide HWC with a peer review of the detailed design of the stormwater management system;</p> <p>(b) investigate the constructability, effectiveness and durability of the stormwater management system;</p>	Pre-construction	AGL	Compliance Open	<p>Confirmation email by Axel Hanson from Hunter Water Corporation dated 2-May-12 approving SMEC as the independent peer reviewer.</p> <p>Review of design completed with email received from HWC 2 May 2012 with recommendations. Meeting held with SMEC 20 July 2012 to discuss review and recommendations.</p> <p>Submitted to DP&amp;I on 8 June 2012.</p> <p>Approval by SMEC of NGSF stormwater design received 19 April 2013.</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
	<p>(c) be undertaken to ensure that the system is constructed as designed to the schedule agreed between the Proponent and HWC; and</p> <p>(d) provide HWC with inspection reports on the adequacy of the stormwater management system in accordance with the inspections identified in the schedule referred to in (c).</p> <p>The review reports shall be incorporated into the compliance tracking programme required under condition B54 and shall include, but not necessarily be limited to: annual reports of Stormwater systems Performance supplied to HWC.</p> <p>Any faults identified as a result of the inspection reports identified in (d) shall be rectified and re-inspected at the Proponent's expense.</p>				
<b>NOISE</b>					
<b>Construction Hours</b>					
B27	<p>Subject to conditions B28 and B29, construction works (other than horizontal directional drilling (HDD)) that would generate audible noise at any sensitive receiver shall only be undertaken during the following hours:</p> <p>(a) 7:00 am to 6:00 pm, Mondays to Fridays, inclusive;</p> <p>(b) 8:00 am to 1:00 pm on Saturdays; and</p> <p>(c) at no time on Sundays or public holidays.</p>	Pre- construction Construction	CBI	Compliance Open	<p>Noted - hours included in NVMSPP. NVMSPP sent to DP&amp;I as part of CEMP</p> <p>EPL hours align with MCoA.</p> <p>Out of hours work completed - forms completed and noise levels checked to confirm inaudible at site boundary.</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
	<p>This condition does not apply in the event of a direction from police or other relevant authority for safety reasons or emergency work to avoid the loss of lives, property and/or to prevent environmental harm.</p>				
B28	<p>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:</p> <p>(a) between the hours of 8.00 am and 6.00 pm Monday to Friday;</p> <p>(b) between the hours of 8.00 am and 1.00 pm Saturday; and</p> <p>(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.</p> <p>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.</p>	Pre- construction  Construction	CBI	Compliance  Open	<p>No works outside of standard construction hours – hours of operation in NVMSP – refer Appendix B – Table 8-2</p> <p>Vibratory rolling and vibro compaction activities observed during site inspections indicate impacts dissipate within 100m – 250m of activity. Nearest receptors is Hunter Region Botanical Gardens.</p> <p>Later start time to normal working hours requirement is communicated in tool box talks and adhered to during vibratory activities.</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
B29	<p>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:</p> <p>(a) be considered on a case-by-case basis;</p> <p>(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</p> <p>(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.</p>	Pre-construction Construction	<p>a) CBI</p> <p>b) CBI</p> <p>c) CBI to notify AGL &gt;72 hrs prior to enable AGL to update website</p>	Compliance  Open	<p>NVMSP - Appendix B Table 8-2</p> <p>Refer to MCoA B57(f) - OOHW protocol developed to include requirements.</p> <p>No residential receivers affected by current works.</p>
<b>Construction Noise Criteria</b>					
B30	The Proponent shall implement all reasonable and feasible noise mitigation measures to minimise noise generated by construction of the project, consistent with the requirements of the Interim Construction Noise Guidelines (DECC, July 2009).	Pre-construction Construction	CBI	Compliance  Open	<p>NVMSP - Appendix B (all tables)</p> <p>Noise levels are monitored by CBI environment staff and any issues noted in daily diary notes or the weekly report.</p> <p>ER site inspections note noise levels reasonable</p>



Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
B31	Prior to the commencement of construction, the Proponent shall undertake a noise assessment to identify all sensitive receivers where the construction noise management goals, exceed the ICNG construction noise goals for that receiver. The results shall be included in the Construction Noise Management Plan required under condition B57 of this approval.	Pre-construction - Stage 5	AGL	Compliance Closed - CBI	<p>Note: This condition is only applicable to Stage 5 High Pressure Pipeline construction in July 2013 as confirmed by Ms Anna Timbrell (DP&amp;I).</p> <p>NVMSP - Table 2-1 Sensitive Receivers. Predicted noise impacts included in Section 2.3</p> <p>Noise and Vibration Assessment - NGSF, Atkins Acoustics and Associates Pty Ltd, May 2011 indicated no exceedances of ICNG construction noise management goals for the works at any receivers.</p>
<b>TRAFFIC AND TRANSPORT</b>					
B32	<p>Prior to the commencement of construction of the project, the Proponent shall commission a suitably qualified road infrastructure specialist to assess the condition of all public roads proposed to be traversed by construction traffic associated with the project (including over-mass or over-dimensional vehicles) in consultation with Council and the RMS, and to identify any upgrade requirements to accommodate project traffic for the duration of construction (including culvert, bridge and drainage design; intersection treatments; vehicle turning requirements; and site access), having regard to peak traffic volumes.</p> <p>The Pre-Construction Road Inspection Report shall be submitted to the Director-General prior to the commencement of construction works, clearly identifying recommendations made by the Council and the RMS and how these have been addressed.</p>	Pre-construction	CBI AGL - submission of report	Compliance Open - CBI	<p>Refer letter report from Better Transport Futures 6 July 2012 indicating the current road network in the vicinity of the subject site can accommodate the volume and size of the vehicles associated with the construction phase of the Gas Storage Facility and no road upgrades are required.</p> <p>RMS not contacted for Old Punt Rd component as Council Road. TAC Northern Access Road private therefore liaison with RMS or PSC not required.</p> <p>Submitted to DP&amp;I 11 July 2012</p> <p>Email from PSC (Michael Viola) dated 04/04/2013 confirming council requirements regarding any road upgrades.</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
	The Proponent shall ensure that all upgrade measures identified in the report are implemented to meet the reasonable requirements of Council and the RMS, prior to the commencement of construction.				
B33	A commercial-type vehicular crossing shall be constructed across the public footway at the proposed driveway entrance/ exit to the Hexham receiving station site at the expense of the Proponent. The crossing shall be designed and constructed in accordance with Newcastle City Council's A017 Series (Concrete Vehicular Crossings) design specifications.	Pre- construction - Stage 2 Construction	AGL	NA Open	To be included in Traffic Management Sub-Plan for relevant stage of works
B34	Redundant existing vehicular crossings at the Hexham receiving station site shall be removed at the expense of the Proponent and the public footway and kerb shall be restored to be consistent with existing infrastructure.	Pre- construction - Stage 2 Construction	AGL	NA Open	To be included in Traffic Management Sub-Plan for relevant stage of works
<b>AIR QUALITY</b>					
<b>Odour</b>					
B35	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.	Pre- construction Construction	CBI	Compliance Open	Noted - Project Air Quality Management Sub Plan includes best practise mitigation measures to minimise odour. AQMSP submitted to DP&I for approval with CEMP.  No odour generating activities noted during ER site inspections to date.

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<i>Dust</i>					
B36	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.	Pre- construction Construction	CBI	Compliance Open	Noted - Project AQMSP includes best practise mitigation measures to minimise odour. AQMSP submitted to DP&I for approval with CEMP.  Site inspections during bulk earthworks indicate dust levels required mitigation - two water carts employed on site to suppress dust.
<i>METEOROLOGY</i>					
B37	Prior to the commencement of construction works, the Proponent shall establish a meteorological monitoring station on the site, or at a representative location off-site, for the purpose of continuously monitoring meteorological conditions on the site for the life of the project. The meteorological monitoring station shall be located, operated and maintained to meet the requirements of the OEH. The Proponent may satisfy this condition by demonstrating to the satisfaction of the OEH that it has access to data from an existing meteorological monitoring station, representative of conditions on this site, and operated by a third party.	Pre- construction	AGL	Compliance Open	Refer to letter from TAC on 21-Mar-12 granting access to meteorological monitoring station.  5-Apr-13: Peter Jamieson (Head Regional Operations Unit - Hunter) of EPA confirmed TAC monitoring station is acceptable.

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
<b>HERITAGE</b>					
B38	The Proponent shall employ a suitably-qualified archaeologist to attend site clearing and vegetation removal works within the gas storage facility site and within riparian areas of the Hunter River, and any activities with the potential to directly or indirectly impact on subsurface heritage items. The archaeologist shall be employed for the purpose of identifying and advising on potential Aboriginal heritage impacts, including appropriate mitigation and management, as required under these conditions of approval. Items of heritage significance that may be uncovered during construction of the project shall be managed in accordance with the approved Cultural Heritage Management Plan under condition B57.	Pre-clearing	AGL	Compliance  Open	<p>RPS appointed archaeologists.</p> <p>Refer to MCoA B57</p> <p>Report issued by RPS 21 November 2012 detailing site inspections and finds. Six cultural heritage items were recorded with GPS coordinates taken and photographed. They are being held onsite in the temporary administration office and once the NGSF works are completed will be managed in accordance with a Care and Control agreement developed between the Aboriginal community stakeholder groups and AGL (refer Section 5 CBI CHMP 2012). The monitoring report includes a record of the monitoring units, documentation of Aboriginal sites, as well as assessment of significance.</p> <p>Further scans and finds have occurred since RPS report issued. Final register to be developed and issued once earthworks completed.</p> <p>Finds will be registered with AIHMS/EPA once items are placed in final location which fulfils legislative requirements (verbal advice RPS, January 2013).</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
B39	Registered Aboriginal stakeholders shall be invited to attend site clearing and soil disturbance work to assist in the identification of heritage items, including potential mitigation and management measures.	During clearing	AGL	Compliance Closed - CBI	Cultural Heritage Management Sub Plan - Section 5.3.1 Heritage inspections completed 30/08/2012, 07/09/2012, 24/09/2012, 15/10/2012, 24/10/2012, 23/01/2013, and 11/05/2011.
B40	Where reasonable and feasible, the Proponent shall remove vegetation from the site with the aim of avoiding or minimising the need to disturb the underlying soil.	Pre-construction Construction	CBI	Compliance Closed - CBI	Requirement is detailed in following documents: <ul style="list-style-type: none"> <li>EWMS - Clearing and Grubbing</li> <li>EWMS - Topsoil stripping and stockpiling</li> <li>FFMSP - Appendix B Table 8-9 point 14</li> </ul> Site inspection during heritage scan after clearing commenced on 30/08/2012 indicates vegetation was removed with minimal disturbance to allow for heritage inspections to occur prior to land disturbance.
<b>WASTE MANAGEMENT</b>					
B41	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.	Pre-construction Construction	CBI	Compliance Open	Refer Waste Management Sub Plan (WMSP) - Section 2.1.3 and Appendix A. Site does not accept waste. Gravel material used for onsite roads (pipeline track and main access road) sourced from Hanson's Brandy Hill Quarry - spot check of delivery dockets completed.
B42	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.	Pre-construction	CBI	Compliance Open	Refer Waste Management Sub Plan (WMSP) - all and Appendix A.

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
		Construction			<p>All material tracked off site entered in waste register.</p> <p>Subsoil deemed unsuitable for reuse on-site has been screened to enable reuse.</p> <p>Bulk of mulch went to Austar mine for use in rehabilitation works. Extra mulch to Lake Macquarie Council.</p> <p>Excess logs to Newcastle Earthmoving for future use.</p>
B43	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.	Pre-construction Construction	CBI	Compliance Open	<p>Refer Waste Management Sub Plan (WMSP) – Section 2.1.2 and Appendix A.</p> <p>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.</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
<b>VISUAL AMENITY</b>					
B44	<p>The Proponent shall:</p> <p>(a) take all reasonable and feasible measures to mitigate off-site lighting impacts from the construction of the project; and</p> <p>(b) ensure that all external lighting associated with construction of the project complies with Australian Standard AS4282 - 1997 - Control of the Obtrusive Effects of Outdoor Lighting.</p> <p>This condition does not apply to lighting required for aviation safety.</p>	Pre- construction Construction	CBI	Compliance Open	CEMP has been updated to refer to use of directional lighting. Refer Table 12-5 Flora and Fauna External lighting installed on site office - check indicates directional towards ground.
<b>AIR SAFETY</b>					
B45	At least one month prior to the commencement of construction, the Proponent shall notify the RAAF Aeronautical Information Service of the location and heights of tall structures that are 30 metres or more above ground level within 30 kilometres of an aerodrome, or 45 metres or more above ground level elsewhere.	Pre- construction	AGL	Compliance Closed	Notification letter sent to RAAF on 11 May 2012. Construction commence 27 August 2012 25-Feb-13: Detailed coordinates and height of tank provided to RAAF. Also requested air space restriction over NGSF, but rejected on 28-Jun-13.
<b>INFRASTRUCTURE, SERVICES AND ANCILLARY FACILITIES</b>					
B46	The Proponent shall undertake all necessary alterations to existing public utility installations to meet the reasonable requirements of, and at no expense to, the relevant public utility authority.	Pre- construction Construction	CBI AGL	NA Open	Commitment is included in CEMP (p 37) No alterations to existing public utility installations have been completed to date

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B47	The Proponent shall ensure that road surfaces – and any other road-related infrastructure including drainage, street lighting, street furniture or underground facilities – disturbed or damaged during construction, are restored to meet the reasonable requirements of, and at no expense to, the relevant road authority.	Pre- construction Construction	CBI AGL	NA Open	Commitment is included in CEMP (p 37)  Existing road surfaces disturbed on Old Punt Rd have since been restored.
B48	The Proponent shall design and provide on-site car parking, driveways, parking bays, vehicular turning areas, letterboxes, landscaping and drainage in consultation with and to meet the reasonable requirements of the relevant local council.	Pre- construction Construction	CBI AGL	Compliance Open	Commitment is included in CEMP (p 37). Applicable to pipeline scope of works.  Final design to be checked for compliance with PSC requirements
<b>COMMUNITY INFORMATION, CONSULTATION AND INVOLVEMENT</b>					
<i>Provision of Electronic Information</i>					
B49	Prior to the commencement of construction, the Proponent shall establish a dedicated website or maintain dedicated pages within its existing website for the provision of electronic information associated with the project. The Proponent shall publish and maintain up-to-date information on this website or dedicated pages including, but not necessarily limited to:  (a) the status of the project; (b) a copy of this approval and any future modification to this approval; (c) a copy of each relevant environmental approval, licence or permit required and obtained in relation to the project;	Pre- construction	AGL - update CBI - content	Compliance On-going	<a href="http://agk.com.au/newcastle/index.php/the-project/">http://agk.com.au/newcastle/index.php/the-project/</a> a) background for approvals and current status include on project page. Last newsletter issued Autumn 2013 which is loaded onto the News, Publication and other Media webpage. b) Link to copy of approval included under Environment page c) copy of relevant approval includes link to DP&I website d) A copy of the CEMP and sub plans required under the MCoA have been loaded onto website – environment page.



Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
	(d) a copy of each plan, report, or monitoring programme required by this approval; and (e) details of the outcomes of compliance reviews and audits of the project.				e) All ER audits completed to date loaded onto website - environment page
<b>Community Information Plan</b>					
B50	<p>Prior to the commencement of construction, the Proponent shall prepare and implement a Community Information Plan which sets out the community communication and consultation processes to be implemented during construction and operation of the project. The Plan shall include, but not be limited to:</p> <p>(a) procedures to inform the local community of planned investigations and construction activities, including blasting works (if any);</p> <p>(b) procedures to inform the relevant community of construction traffic routes and any potential disruptions to traffic flows and amenity impacts;</p> <p>(c) procedures to inform the community where work outside the construction hours specified in condition 0, in particular noisy activities, has been approved; and</p> <p>(d) procedures to inform and consult with affected landowners to rehabilitate impacted land.</p>	Pre-construction	AGL to develop plan CBI to implement	Compliance Closed	<p>Provided in the Community Engagement Plan (Document no: NGSF-AGL-NAS-PM-PLN-0002) - Section 2</p> <p>a) Section 6.1 b) Section 6.1 c) Section 6.1 d) Section 6.1</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
<i>Complaints Procedure</i>					
B51	<p>Prior to the commencement of construction, the Proponent shall ensure that the following are available for community complaints for the life of the project (including construction and operation) or as otherwise agreed by the Director-General:</p> <p>(a) a 24-hour telephone number on which complaints about construction and operational activities at the site may be registered;</p> <p>(b) a postal address to which written complaints may be sent; and</p> <p>(c) an email address to which electronic complaints may be transmitted.</p> <p>The telephone number, postal address and email address shall be advertised in a newspaper circulating in the area of the project, on at least one occasion prior to the commencement of construction; and at six-monthly intervals during construction and for a period of two years following commencement of operation of the project.</p> <p>These details shall also be provided on the Proponent's internet site required by condition B49. The telephone number, the postal address and the email address shall be displayed on a sign near the entrance to the construction site(s), in a position that is clearly visible to the public.</p>	Pre-construction	<p>AGL - to publicise availability of these communication channels to local community.</p> <p>CBI - to erect signage that is clearly visible to the public</p>	Compliance Open	<p>Provided in the Community Engagement Plan (Document no: NGSF-AGL-NAS-PM-PLN-0002)</p> <p>Project signboards have been erected on site at Hexham and Tomago with contact details</p> <p>a, b, c advertised on project website - details also included in Newspaper advertisement published in:</p> <ul style="list-style-type: none"> <li>• Port Stephens Examiner - 21 June 2012, 20 September 2012, 24 January 2013, 25 April 2013, 25 July 2013</li> <li>• Newcastle Herald - 21 June 2012, 20 September 2012, 24 January 2013, 25 April 2013, 25 July 2013</li> </ul> <p>All advertisements loaded onto website - news, publications and media page</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
B52	<p>The Proponent shall record details of all complaints received through the means listed in condition B51 of this approval in an up-to-date Complaints Register. The Register shall record, but not necessarily be limited to:</p> <p>(a) the date and time of the complaint;</p> <p>(b) the means by which the complaint was made (telephone, mail or email);</p> <p>(c) any personal details of the complainant that were provided, or if no details were provided, a note to that effect;</p> <p>(d) the nature of the complaint;</p> <p>(e) any action(s) taken by the Proponent in relation to the complaint, including timeframes for implementing the action; and</p> <p>(f) if no action was taken by the Proponent in relation to the complaint, the reason(s) why no action was taken.</p> <p>The Complaints Register shall be made available for inspection by the Director-General upon request.</p>	Pre- construction  Construction	<p>AGL - to record complaints using Consultation Manager.</p> <p>CBI - details (a) - (d) of any complaints received directly by CBI. Need to be recorded and passed on to AGL within 4 hours. CBI to close out actions resulting from complaints in timely fashion.</p>	Compliance  Open	<p>Requirements include in CEMP Section 5.2.3 Complaints Handling which was submitted to DP&amp;I for approval</p> <p>Community Engagement Plan refers to Section 6.5.5 for complaint protocol</p> <p>CEMP refers to Section 5.2.3</p> <p>Protocol is for CBI to complete Complaints form and forward to AGL for inclusion in Complaints Database. Screen shots of complaints database confirm all requirements are recorded in the case of a complaint.</p> <p>No complaints received to date for the Project</p>
B53	<p>The Proponent shall provide an initial response to any complaints made in relation to the project during construction or operation within 48 hours of the complaint being made. The response and any subsequent action taken shall be recorded in accordance with condition B52. Any subsequent detailed response or action is to be provided within two weeks, or as otherwise agreed by the complainant/ Director-General.</p>	Pre- construction  Construction	<p>AGL - to respond</p> <p>CBI - to provide assistance/information in preparing responses to complaints</p>	Compliance  Open	<p>Section 5.2.3 Complaints Handling of CEMP indicates all complaints to be responded within 48 hours:</p> <ul style="list-style-type: none"> <li>• telephone complaints: verbal response is made within 4 hours;</li> <li>• written correspondence: acknowledged within 48 hours if a contact number is given and a written response within 5 days;</li> </ul>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
					<ul style="list-style-type: none"> <li>Email or fax: submission acknowledged within 24 hours</li> </ul> No complaints received to date for the Project.
<b>COMPLIANCE TRACKING PROGRAM</b>					
B54	<p>Prior to the commencement construction, the Proponent shall develop and implement a Compliance Tracking Programme, to track compliance with the requirements of this approval during the construction and operation of the project and shall include, but not necessarily be limited to:</p> <p>(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;</p> <p>(b) a programme for independent environmental auditing in accordance with AS/NZ ISO 19011:2003 - Guidelines for Quality and/or Environmental Management Systems Auditing;</p> <p>(c) procedures for rectifying any non-compliance identified during environmental auditing or review of compliance;</p> <p>(d) mechanisms for recording environmental incidents and actions taken in response to those incidents;</p> <p>(e) provisions for reporting environmental incidents to the Director-General during construction and operation; and</p>	Pre-construction	<p>AGL - establish processes/procedures to ensure compliance</p> <p>CBI - to provide information as required, implement corrective actions as required.</p>	Compliance Open	<p>Compliance Tracking Program (Document No: NGSF-AGL-NAS-PM-PLN-0016)</p> <p>Compliance Tracking Register (Document No: NGSF-WPPM-NAS-PM-REG-0004-XLS)</p> <p>The relevant section of the CTP which addresses the requirements are as follows:</p> <p>a) Section 2.1 - reporting to be completed every six months (first report to cover period 28 August 2012 to 28 February 2013)</p> <p>b) Section 2.2 - programme includes 3 monthly audits by ER. Audits completed November 2012, March 2013, June 2013. Next audit due September 2013.</p> <p>c) Section 2.3 - Refers to Section 6.5 and 7.2 of Appendix A. Environment Action Register includes all actions arising from site inspections, audits.</p> <p>d) Section 2.4 - Refers to Section 6 of Appendix A. Includes need to report to AGL within 24 hours verbally and within 48hours a written report.</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
	(f) provisions for ensuring all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities.				<p>e) Section 2.5 - Verbal advice will be provided as soon as practicable after AGL becomes aware of the incident and written advice will be provided within seven (7) working days.</p> <p>The ER is notified immediately of all incidents requiring reporting to any agencies or the Director-General and is made of aware of minor incidents through regular site and compliance inspections.</p> <p>f) Section 2.6 - Project Requirements Register Doc No. NGSF-WPPM-NAS-PM-REG-0004 - lists requirements and stakeholder responsible</p>
<b>COSTRUCTION ENVIRONMENTAL MANAGEMENT</b>					
<i>Environmental Representative</i>					
B55	Prior to the commencement of pre-construction or construction activities, the Proponent shall nominate for the approval of the Director-General a suitably qualified and experienced Environmental Representative(s) who is independent of the design, construction and operation personnel. The Proponent shall engage the Environmental Representative(s) prior to construction until at least six months after commencement of operation, or as otherwise agreed by the Director-General.	Pre-construction	AGL	Compliance Closed	<p>The Environmental Representative (Megan McLachlan) has been approved by the Director-General on 25/06/2012.</p> <p>The alternate ER (Hamish Campbell) has been approved by the Director-General on 31/07/2012.</p> <p>Alternate ER Hamish Campbell replaced by Will Ellis and approved by DP&amp;I in correspondence dated 29/11/2012.</p> <p>Construction activities commenced 27 August 2012</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
<i>Construction Environment Management Plan</i>					
B56	<p>The Proponent shall prepare and implement a Construction Environmental Management Plan (CEMP) to outline environmental management practices and procedures to be followed during construction of the project. The Plan shall be shall be consistent with the Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004 or its latest revision). The Plan shall be prepared in consultation with Councils, NOW and HWC and include, but not necessarily be limited to:</p> <p>(a) a description of all relevant activities to be undertaken on the site during construction including an indication of stages of construction, where relevant;</p> <p>(b) identification of the potential for cumulative impacts with other construction activities occurring in the vicinity and how such impacts would be managed;</p> <p>(c) details of any construction sites and mitigation, monitoring, management and rehabilitation measures specific to the site compound(s) that would be implemented;</p> <p>(d) statutory and other obligations that the Proponent is required to fulfil during construction including all relevant approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;</p> <p>(e) evidence of consultation with relevant public authorities required under this condition and how issues raised by the agencies have been addressed in the plan;</p>	Pre-construction	CBI (a-c and f-j)  (d) - CBI/AGL as per Schedule 8 of Agreement	Compliance  Closed - CBI	<p>Constriction Environment Management Plan sent to DP&amp;I electronically on 23 July 2012 with hard copies sent via mail with letter dated 31 July 2012</p> <p>Emails to Port Stephens Council dated 8 August 2012. CEMP sent to PSC 24 July 2012, to NOW 24 July 2012.</p> <p>22/08/2012: Approval received from DP&amp;I confirming conditions B56 and B57 have been satisfied.</p> <p>a) Section 2.7 Project Schedule</p> <p>b) Section 5.4 Monitoring and Review</p> <p>c) Section 5.4 Monitoring and Review and Section 5.5 Incident Management</p> <p>d) Section 3: Legislative and Other Requirements</p> <p>e) Section 5.2.1: Consultation for CEMP</p> <p>f) Section 4.4: Roles and Responsibilities</p> <p>g) Section 5.4 Monitoring and Review and Section 5.5 Incident Management</p> <p>h) The CEMP and associated sub plans, environmental work method statements</p> <p>i) Section 5.2.3 Consultation with Stakeholders and Community Engagement Plan</p> <p>j) Section 4.3.4 EWMS and Appendix A8: EWMS Matrix</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
	<p>(f) a description of the roles and responsibilities for all relevant employees involved in the construction of the project including relevant training and induction provisions for ensuring that all employees, contractors and sub-contractors are aware of their environmental and compliance obligations under these conditions of approval;</p> <p>(g) details of how the environmental performance of construction would be monitored, and what actions would be taken to address identified potential adverse environmental impacts;</p> <p>(h) specific consideration of relevant measures to address any requirements identified in the documents referred to under condition A1 of this approval;</p> <p>(i) a complaints handling procedure during construction as identified in conditions B51 to B53; and</p> <p>(j) a matrix of construction work method statements (or similar) to be prepared and the anticipated level of risk associated with each to be determined.</p> <p>The Construction Environmental Management Plan shall be submitted for the approval of the Director-General no later than one month prior to the commencement of relevant construction works associated with the project, or within such lesser period otherwise agreed by the Director- General. Construction works shall not commence until written approval of the CEMP has been received from the Director-General.</p>				

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
B57a	<p>As part of the Construction Environmental Management Plan required under condition B56 of this approval, the Proponent shall prepare and implement the following:</p> <p>(a) a Flora and Fauna Management Plan, prepared in consultation with the relevant Council and with reference to the OEH requirements, to outline measures to protect and minimise loss of native vegetation and native fauna habitat as a result of construction of the project. The Plan shall include, but not necessarily be limited to:</p> <p>(i) plans showing terrestrial vegetation communities; important flora and fauna habitat areas; locations where EECs, native grasses are to be cleared. The plans shall also identify vegetation adjoining the site where this contains important habitat areas and/or threatened species, populations or ecological communities;</p> <p>(ii) methods to manage impacts on flora and fauna species and their habitat which may be directly or indirectly affected by the project, such as location of fencing, procedures for vegetation clearing or soil removal/stockpiling and procedures for locating hollows or installing nesting boxes and managing weeds;</p> <p>(iii) procedures to accurately determine the total area, type and condition of vegetation community to be cleared; and</p> <p>(iv) a procedure to review management methods where they are found to be inadequate</p>	Pre-construction	CBI	Compliance Closed - CBI	<p>Flora and Fauna Management Sub Plan</p> <p>a) Email date 8 August 2012 to Port Stephens Council re Fauna Hollow Management. Meeting 2 August discussing all environmental commitments. Email 31 July 2012 with FFMSP attached to PSC. Offset strategy also sent through to PSC</p> <p>i. Figure 1 includes ecological communities, Figure 2 species locations for project area and surrounds</p> <p>ii. Section 3.2, Section 4.1 Appendix B</p> <p>iii. Section 2.0</p> <p>iv. CEMP Section 4.0</p>



Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
B57b	(b) a Cultural Heritage Management Plan, developed in consultation with registered local Aboriginal stakeholders, to outline mitigation and management strategies for items of heritage significance that may be uncovered during construction of the project;	Pre-construction	CBI	Compliance Closed - CBI	<p>Cultural Heritage Management Sub Plan</p> <p>Correspondence received from Nur Run Gee 12 September 2011 confirming review of draft report with no comments</p> <p>Correspondence received from Mur-Roo-Ma 8 September 2011 acknowledging review of draft report.</p> <p>Correspondence received from ATOAC (Awabakal) 20 September 2011 acknowledging receipt of draft report. Recommended that groups attained site when current dense vegetation layer removed as well as a few minor edits which are now included in plan.</p> <p>CHMSP includes protocol to be followed during clearing and also if unexpected find encountered after clearing works.</p>
B57c	(c) a Groundwater Management Plan prepared in consultation with NOW and HWC to detail how impacts to groundwater will be avoided and mitigated during the construction and operation of the project. The Plan shall integrate data from groundwater monitoring undertaken as required by condition B25 to set baseline and to establish targets and thresholds for the duration of the project. A contingency plan shall be developed as part of the Groundwater Management Plan in the event that groundwater is compromised during construction, such as through drawdown from horizontal directional drilling;	Pre-construction	CBI	Compliance Closed - CBI	<p>Groundwater Management Sub Plan - sent in email to DP&amp;I dated 11 July 2012. Approved 22/08/2013</p> <p>Email from HWC 31 October 2011 indicating satisfaction with plan.</p> <p>Email to DP&amp;I 9 August 2012 with correspondence attached endorsing GMSP from NOW</p> <p>Refer Condition B25</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
B57d	(d) a Surface Water Management Plan prepared in consultation with NOW, HWC and the Port Stephens Council (particularly in regard to stormwater being conveyed from the gas storage facility site to Old Punt Road), to detail how surface water and stormwater will be managed on the site during construction and operation of the project. The plan shall include detailed design of all watercourse crossings, culverts and in-stream works, a programme to monitor and manage, and notification and mitigation of identified impacts of watercourse crossings, culverts and instream crossings. In particular, the design for the horizontal directional drilling under the Hunter River shall be provided, including an assessment of the depth of scour for the Hunter River, and demonstration that the HDD will be undertaken below this depth. The plan shall also include use of appropriately sized stormwater controls, in accordance with Managing Urban Stormwater: Soils and Construction (Landcom, 2004). The plan shall include specific measures to avoid sediment-laden stormwater from entering the Hunter River, a monitoring programme for stormwater leaving the site (including the requirements for inspection reports required under condition B26) details of how hydrostatic test water would be disposed, and measures to mitigate contamination of soils and water	Pre- construction  Construction	CBI  Other	Compliance  Closed - CBI	Surface Water Management Sub Plan – sent in email to DP&I dated 11 July 2012. Approved 22/08/2013.  Email from HWC 31 October 2011 indicating satisfaction with plan.  Email to DP&I 9 August 2012 with correspondence attached endorsing GMSP from NOW  Additional SWMSP to be developed for pipeline works which will include river crossing.

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B57e	(e) a Flood Emergency Response Plan prepared in consultation with and to meet the reasonable requirements of Newcastle City Council and Port Stephens Shire Council;	Pre-construction	CBI	Compliance Closed - CBI	Flood Emergency Response Management Sub Plan sent to DP&I 24 July 2012. Approved 22/08/2012  Correspondence with PSC dated 26 July 2012, Email indicating plan sent through 27 July 2012. Email dated 16 August 2012 chasing up comments
B57f	(f) a Noise Management Plan to manage noise impacts during construction and to identify all feasible and reasonable noise mitigation measures. The Plan shall include, but not necessarily be limited to:  (i) details of construction activities and an indicative schedule for construction works;  (ii) identification of construction activities that have the potential to generate noise impacts on surrounding land uses, particularly residential areas;  (iii) details of the requirements for Noise Impact Statement(s) for discrete work areas, including construction site compounds;  (iv) identify all sensitive receivers where construction noise goals are predicted to be exceeded;  (v) detail what reasonable and feasible actions and measures would be implemented to minimise noise impacts;  (vi) consultation with the owner/occupiers of sensitive receivers (including receivers R4 (Tomago Village Caravan Park) and R5 (217 Maitland Road), where construction noise goals are expected to be exceeded, with the aim of identifying and implementing reasonable and feasible noise mitigation and management	Pre-construction	CBI (i-iv)& AGL (v) & (vi)	Compliance Closed - CBI	Noise and Vibration Management Sub Plan approved 22/08/2012.  i. Table 2-3 – Schedule currently aligns with actual works  ii. Section 2.0, Table 2-6 lists main construction activities and predicted noise levels at various distances from site.  iii. Section 2, Table 2-6. As no activities are predicted to impact the sensitive receptors the requirements for Noise Impact Statements is not considered necessary for the Project. Spot checks will be conducted during construction to confirm predicted levels.  iv. Section 2.0, Table 2-1. No sensitive receivers are predicted to be impacted by the Project  v. Appendix B – all tables  vi. Section 3.0, Appendix B. R4 and R5 are not affected by the current stage of works.  vii. Appendix B Table 8-1  viii. Appendix B – Table 8-2. Additional procedures developed post approval

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
	<p>measures, including where necessary, the consideration of respite periods and alternative accommodation arrangements;</p> <p>(vii) procedures for notifying sensitive receivers of construction activities that are likely to affect their noise amenity, as well as procedures for dealing with and responding to noise complaints;</p> <p>(viii) an out-of-hours work (OOHW) protocol for the assessment, management and approval of works outside of standard construction hours as defined under this approval, including a risk assessment process under which the Environmental Representative may approve out-of-hour construction activities deemed to be of low environmental risk and refer high risk works for the Director-General's approval. The OOHW protocol shall detail standard assessment, mitigation and notification requirements for high and low risk out-of-hour works, and detail a standard protocol for referring applications to the Director-General; and</p> <p>(ix) a description of how the effectiveness of these actions and measures would be monitored during the proposed works, clearly indicating how often this monitoring would be conducted, the locations where monitoring would take place, how the results of this monitoring would be recorded and reported; and, if any exceedance is detected, how any non-compliance would be rectified;</p>				<p>describing out of hours protocol. Out of Hours Procedure and associated sub plan to the NVMSP forwarded to DP&amp;I 8 April 2013.. Variation to EPL submitted to EPA with approval obtained 04/03/2013.</p> <p>ix. Noise monitoring frequency, locations and results recording and reporting included in Section 5.2 of the NMSP. Management of any exceedances are discussed in Section 5.4. Baseline measurements taken at nearest receptor (Hunter Region Botanical Gardens) during period 20-27 November 2012. Spot checks completed throughout construction as detailed in plan.</p>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
B57g	(g) a detailed Acid Sulphate Soil Management Plan prepared in consultation with DPI(Aquatic Habitat Protection Unit), and NOW prior to any construction activity in areas mapped as Potential Acid Sulphate Soils or Actual Acid Sulphate Soils. The plan shall include reference to the water quality monitoring programme contained in the Groundwater and Surface Water Management Plans. The plan shall be prepared in accordance with the Acid Sulphate Soils Manual (ASSMC, 1998). As part of the plan, a Contingency Plan to deal with the unexpected discovery of actual or potential acid sulphate soils shall be prepared in consultation with NOW;	Pre-construction	AGL	Compliance Closed - CBI	<p>Received confirmation email from Scott Carter (Senior Conservation Manager - Central Region, Aquatic Habitat Protection Unit, NSW DPI) on 28-Mar-12 accepting adequacy of ASS Management Plan</p> <p>Email with ASSMSP attached sent to DPI 22 March 2012, response received form DPI 28 March 2012</p> <p>ASSMSP Table 5-2 refers to additional monitoring GW and SW. Contingency states to stockpile material separately and advice sought.</p> <p>Section 4 and 5 details what to do if ASS or PASS found unexpectedly - no unexpected finds to date. ASSMSP activated during works on Old Punt Rd with assessment of implementation included in 3<sup>rd</sup> quarter ER audit.</p>
B57h	<p>h) a Traffic Management Plan to manage traffic conflicts that may be generated during construction. The Plan shall address the requirements of the relevant road authority and shall include, but not necessarily be limited to:</p> <p>(i) details of how construction of the project will be managed in proximity to local and regional roads;</p> <p>(ii) details of traffic routes for heavy vehicles, including any necessary route or timing restriction for oversized loads;</p> <p>(iii) measures to minimise and manage traffic noise;</p>	Pre-construction	CBI	Compliance Closed - CBI	<p>Traffic Management Sub Plan approved by DP&amp;I 22/08/2012</p> <ol style="list-style-type: none"> <li>i. Section 2.8</li> <li>ii. Appendix A</li> <li>iii. Table 9-4</li> <li>iv. Appendix C Table 9-3</li> <li>v. Section 1.6, Section 2.0</li> <li>vi. Appendix B</li> <li>vii. Section 3.0</li> </ol>

Item	Assessment Requirement	Stage/ timing	Responsibility	Compliance Status	Reference/ Comment
	<p>(iv) an assessment of sufficient access for emergency vehicles to ensure the proposed traffic arrangements meet the requirements detailed in Guidelines for Emergency Vehicle Access Policy No 4 (NSW Fire Brigades, 2010);</p> <p>(v) demonstration that all statutory responsibilities with regard to road traffic impacts have been complied with;</p> <p>(vi) details of measures to minimise interactions between the project and other users of the roads such as the use of fencing, lights, barriers, traffic diversions etc.;</p> <p>(vii) procedures for informing the public where any road access will be restricted as a result of the project;</p> <p>(viii) procedures to manage construction traffic to ensure the safety of livestock and to minimise disruption to livestock;</p> <p>(ix) speed limits to be observed along routes to and from the site and within the site; and</p> <p>(x) details of the expected behavioural requirements for vehicle drivers travelling to and from the site and within the site.</p>				<p>viii. Appendix C Table 9-2</p> <p>ix. Appendix C Table 9-2</p> <p>x. Section 3.2</p>

**Table A1.2 Compliance Assessment - Statement of Commitments**

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b>7.1 Soils</b>					
<b>7.1.1 Soil Contamination</b>					
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.	Preconstruction	CBI	Compliance Open	Refer Appendix C of the Pollution Incident Response Management Plan  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  SMSP - Table 8-12
2	Ensure concrete mixers and pump trucks are not washed on-site.	Construction	CBI	Compliance Open	27.02.12 - AGL requested change to this (via DP&I) to enable onsite washouts with appropriate controls to be implemented by CBI. Approved by DP&I 8 February 2013  Concrete washout procedures included in Appendix B of the Waste Management Sub-Plan. Updated Procedure sent to AGL 23/11/2012. HWC and NOW consultation - approved 23/11/2012. Letter from HWC to DP&I dated 22/08/20/12 endorsing procedure. Email from EPA sent 22/11/2012 responding to updated procedure which will allow washing on -site

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
3	Store PASS capable of producing leachate within lined bunds.	Construction	CBI	Compliance Open	ASSMP - refer Table 4-1 SMSP - refer Table 8-6 and Table 8-8 PASS encountered on Old Punt Rd - treated in place with lime and restored in excavation. Excess material stored in lined bund area near entrance to site and disposed as solid waste.
4	Contain excess construction materials, drill fluids and cuttings using appropriate methods such as plastic-lined pits, skips or holding tanks for appropriate reuse or off-site disposal. HDD fluids will be contained within the bunded HDD work area.	Construction - Stage 2	CBI	NA Open	Not currently applicable
5	Provide workforce inductions and training to ensure personnel have knowledge of the correct use of refuelling systems and chemical handling procedures.	Construction	CBI	Compliance Open	SMSP - Section 3.2 Refuelling included in induction. 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.



Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
6	Restrict vehicle movements to sealed or dedicated areas and roadways, as far as practical.	Construction	CBI	Compliance Open	SMSP - Table 5-2 and Table 8-8 Site boundaries delineated initially with parawebbing. Road construction for main access road, gas track road completed. Permanent rural fencing installed and webbing removed.
7	Ensure drainage around vehicle and equipment servicing areas, workshops and chemical storage areas is directed to sumps.	Construction	CBI	NA Open	SMSP - Table 8-2 No vehicle and equipment servicing areas, workshops and major chemical storage areas currently on site. Minor quantities stored in self bundled shipping containers.
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.	Construction	CBI	Compliance Open	WMSP - Appendix A DG&HMSP - Section 1.6.2 Regulated wastes tracked with certificates issued - includes licence number of contractor.
9	Remove wastewater and sewage from site by an EPA licensed operator for treatment at an EPA-approved wastewater treatment facility.	Construction	CBI	Compliance Open	WMSP - Section 2.1.3 and Appendix A. 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.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
10	Regularly inspect hazardous material containment facilities to ensure their integrity.	Construction	CBI	NA Open	SMSP - Table 5-2 DG&HMMSP - Appendix E (weekly checklist) No hazardous material containment facilities currently on site
11	Ensure potential contaminants at the Hexham receiving station are stored within flood-protected facilities.	Construction - Stage 2	Other	NA Open	Stage 2 CEMP - SMSP
12	Perform an assessment (in accordance with the SEPP 55 and NEPM 1999) to confirm the contaminant type, concentrations and extent of contamination in the event of unearthing historically contaminated soil. Action will then be undertaken in accordance with relevant EPA requirements and land use criteria to either remediate the impacted area or remove the contaminants.	Preconstruction	CBI	Compliance Open	SMSP - Table 5-2 and Table 4-1 AGL to pay for any costs associated with contamination (if found) - CBI must have appropriate management processes in place. Two finds of asbestos during bulk earthworks - removed by licensed contractor. No other contamination issues to date. Asbestos included in materials tracking register.
13	Investigate the current status of the existing sewage management system at the western boundary of the Hexham receiving station site.	Preconstruction - Stage 2	Other	NA Open	Stage 2 CEMP - SMSP
14	Include inductions to construction personnel that outline measures on how to deal with suspected contaminated soil.	Construction	CBI	Compliance Open	SMSP - Section 3.2 Unexpected find procedure developed which includes contaminated soil. Unexpected soil contamination management included in induction

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b>7.1.2 Soil Erosion</b>					
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).	Preconstruction	AGL	Compliance Open	Surface Water Mgt Sub Plan (SWMSP) and Soil Management Sub Plan (SMSP)  Silt fence installed around boundary of project works as per Figure 10-2 in the SMSP (Primary Project Area). Diversion and swale drains be installed as per Figure 10-3 in the SMSP (Access Road and Corridor)
<b>7.1.3 Acid Sulfate Soils</b>					
16	Conduct a detailed ASS assessment at the Hexham receiving station site prior to construction at this site to determine the natural buffering capacity of the soil and ascertain that site works meet the requirements of clause 25 of the Newcastle Local Environmental Plan 2003 (Newcastle LEP 2003).	Preconstruction - Stage 2	Other	NA Open	Stage 2 CEMP - ASSMSP
17	Minimise disturbance and exposure of ASS.	Preconstruction	CBI	Compliance Open	ASSMSP - Table 4-1  AGL studies to date indicate probability is low of encountering ASS in areas CBI will be working (Old Punt Rd). Site is low risk with exception of some areas of Old Punt Rd. Excavations occurred in this area during the reporting period.  Trenching works completed each evening with material reinstated. Excess material treated and stored in designated area.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
18	Store excavated ASS in conditions that simulate its natural state, or treat and store away from waterbodies and drainage lines.	Preconstruction	CBI	Compliance Open	ASSMSP - Table 4-1 PASS reinstated at end of each day or treated and stored in designated area. Designated area near entrance to site away from drainage lines and water bodies.
19	Treat excavated ASS using agricultural lime with machinery sufficient to perform adequate mixing, where practicable.	Preconstruction	CBI	Compliance Open	ASSMSP - Table 4-1 Volumes of material requiring treatment approximately 1 - 2m <sup>3</sup> per batch. Lime mixed in with excavator.
20	Bund areas where ASS are exposed, including at the HDD entry and exit points for the pipeline beneath the Hunter River, to prevent leachate entering the wider environment.	Preconstruction	CBI	Compliance Open	ASSMSP - Table 4-1 ASS exposed during trenching works with any runoff or leachate contained within excavations.
21	Undertake any potential ASS remediation works in accordance with clause 25 of the Newcastle LEP 2003, and the Acid Sulfate Soils Manual (ASSMAC, 1998).	Preconstruction	Other	Compliance Open	ASSMSP - Table 4-1 ASSMSP and SWMS developed in accordance with clause 25 of the Newcastle LEP 2003.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
22	Undertake any potential ASS remediation works in accordance with, the Port Stephens Council Local Environmental Plan 2003, the Port Stephens Council Acid Sulfate Soils Policy, 2004 and the Acid Sulfate Soils Manual (ASSMAC, 1998).	Preconstruction	CBI	Compliance Open	ASSMSP - Table 4-1  ASSMSP and SWMS developed in accordance with Port Stephens Council LEP (2000), the Port Stephens Council ASS Policy, 2004 and the Acid Sulfate Soils Manual (ASSMAC, 1998).
<b>7.1.4 Monitoring</b>					
23	Inspecting and monitoring hazardous material containment facilities to ensure their integrity.	Preconstruction	CBI	Compliance Open	DG&HMMSP - Appendix E (weekly checklist) SMSP - Table 5-2 and Table 8-1
24	Inspecting and maintaining erosion and sedimentation control structures.	Preconstruction	CBI	Compliance Open	SMSP - Table 5-2 Weekly checklists
25	Inspecting and monitoring of all works to ensure soil erosion or contamination is not occurring.	Preconstruction	CBI	Compliance Open	SMSP - Table 5-2 Weekly checklists

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
26	Monitoring soil quality around Project works prior to and during construction to ascertain the presence of contaminated soil or ASS.	Preconstruction	CBI	NA Open	ASSMSP - Table 5-2  Sampling commenced 28 February 2013 by Douglas Partners to characterise soil along Punt Rd prior to excavations.  Douglas Partners also tested materials along southern portion of Old Punt Rd where ASS risk profile was high during works. Material tested as clear of PASS/ASS with no further testing required. Material was treated with lime regardless if removed to storage area.
<b>7.1.5 Modifications to Management and Mitigation Measures for Soils</b>					
27	Conduct an ASS assessment of the Hexham Receiving Station site prior to construction at the site to check the natural buffering capacity of the soil and to satisfy the requirements under clause 25 of the Newcastle Local Environmental Plan 2003.	Preconstruction - Stage 2	AGL	NA Open	Stage 2, ASSMSP
28	A hazardous material survey is carried out prior to demolition of the existing building at the Hexham receiving station site.	Preconstruction - Stage 2	AGL	NA Open	Stage 2, ASSMSP

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
29	A CEMP is prepared that includes procedures for the management and disposal of fill material, procedures for unexpected finds and an ASS management plan, if required.	Preconstruction	AGL	Compliance Closed - CBI	SMSP - Table 5-2 ASSMSP - Table 5-1 Unexpected finds procedure developed which includes contaminated soil and ASS etc.
30	Ensure that the banks of watercourses are not disturbed during construction.	Preconstruction	AGL	NA Open	Included in Table 4-1 of ASSMSP Works within one water course on Old Punt Rd. Some disturbance in existing disturbed area (culverts). Further stabilisation using sandbags as per SoC 59.
<b>7.2 Surface Water</b>					
31	A construction surface water management plan (SWMSP) is being prepared and implemented prior to construction commencing on site. The SWMSP will be prepared in consultation with HWC, NOW, OEH and PSC. The plan will describe best practice surface water control measures to reduce the risk of contamination of surface water and shallow groundwater, or the alteration of surface water flows. The plan will be supported by a surface water monitoring network as described in section 9.2.3 of the EA Main Report.	Preconstruction	AGL	Compliance Closed - CBI	Surface Water Management Sub Plan - sent in email to DP&I dated 11 July 2012 Email from HWC 31 October 2011 indicating satisfaction with plan. Email to DP&I 9 August 2012 with correspondence attached endorsing GMSP from NOW Additional SWMSP to be developed for pipeline works which will include river crossing.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
32	The surface water management plan will be prepared and implemented as part of the CEMP and OEMP.	Preconstruction	CBI Others	Compliance Open	SWMSP for CBI completed Implementation checked during site inspections - internal and external. Refer individual reports and 3 <sup>rd</sup> quarter audit report for implementation
<i>Water Supply and Disposal</i>					
33	Minimise water use.	Construction	CBI	Compliance Open	SWMSP - Table 8-1 Refer also SoC91 Bulk of water used for dust suppression.
34	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.	Construction	CBI	Compliance Open	SWMSP - Table 8-1 Water supplied to site via tankers sourcing water from HWC metered standpipe on Old Punt Rd.
35	Develop hydrostatic test management measures in consultation with HWC, OEH and NOW. The management measures will address: <ul style="list-style-type: none"> <li>Hydrostatic test water supply. This is likely to be potable water from existing HWC water supply infrastructure, untreated water from HWC Station 20 bores, groundwater locally abstracted from new bores or a combination of these;</li> <li>Assessment of potential changes to groundwater levels if groundwater is abstracted from existing HWC and new AGL bores</li> </ul>	Construction	CBI	NA Open	SWMSP -Section 2.4. Hydrostatic testing had not commenced during period. AGL to develop Hydrostatic Test Water Management Plan by June 2013.



Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
36	Transport amenities wastewater offsite by a licensed operator to a licensed disposal facility.	Construction	CBI	Compliance Open	WMSP - refer Table 7-1 SWMSP - Table 8-1 GWMSP - Table 8-1 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.
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.	Construction	CBI	IO Open	SWMSP - Table 8-10 SWMSP refers to Table 8-10 - water to be infiltrated back into groundwater table if clean enough to do so. If water is suspected of being contaminated it will be tested and disposed of or used accordingly. Wards tested pH and completed visual check for grease every hour during dewatering activities. Dewatering by Daracon of sumps to groundwater - pH, EC, NTU, DO and TDS sampled daily. IO - Consider clarifying the procedure/parameters to be tested when dewatering and infiltration to groundwater and surface water.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<i>Surface Water Flow and Flooding</i>					
38	Divert runoff from outside the work area to existing drainage lines to prevent the formation of new surface flow paths.	Construction	CBI	Compliance Open	SWMSP - Table 8-1 Runoff from outside current work area along Main Access Road diverted to drainage lines.
39	Install culverts under new roads to maintain existing surface drainage flows.	Construction	CBI	Compliance Open	SWMSP - Table 8-3 Culverts installed along Main Access Rd at CH200, CH580, CH760 and CH1230. Causeways installed along Gas Access Track at CH220, CH420, CH960 and CH1500.
40	Restrict vehicle movements to formed access roads and sealed roads to avoid surface compaction where practicable.	Construction	CBI	Compliance Open	SWMSP - Table 8-1 Vehicles noted using formed access roads and temporary construction access during site inspections
41	Monitor the potential for flooding by observing weather reports and river levels during potential flood events.	Construction	CBI	Compliance Open	SWMSP - Table 8-1 Adverse weather forecasts are discussed in pre start meetings (prestart records) with weather reports posted on meeting room wall.
42	Store equipment securely when not in use to prevent it being washed away in a flood.	Construction	CBI	Compliance Open	SWMSP - Table 8-11 Site inspections indicate tools and other equipment is packed into storage containers -theft prevention additional driver

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
43	Avoid unnecessary clearing of vegetation and excavation works.	Construction	CBI	Compliance Open	SWMSP - Table 8-1 Vegetation cleared along delineated boundaries. Trees along boundary line retained as noted in ER site inspection reports.
44	The gas storage facility will have a minimum floor level equivalent to the 100-year ARI flood level (approximately 4.6 m AHD) plus a freeboard of 0.5 m (i.e., at least 5.1 m AHD). The preliminary design for the facility has a finished floor level of 6.3 m AHD.	Construction	AGL	Compliance Open	SWMSP - Table 8-1 Main pad area average level at 6.3m AHD. Bunded area average level at 4.65m AHD. Design is compliant with this condition - construction currently underway with further confirmation of compliance once earthworks completed.
45	The design of the Hexham receiving station has a minimum floor level equivalent to the 100-year ARI flood level (approximately 3.9 m AHD) plus a freeboard of 0.5 m (i.e., at least 4.4 m AHD). No additions to the existing building are currently proposed.	Construction - Stage 2	Other	NA Open	Stage 2 - Technical Design spec
<b>Runoff, Erosion and Sediment Control</b>					
46	Restrict construction traffic movement to formed access tracks to avoid excess disturbance to soil and creation of bare areas where practicable.	Construction	CBI	Compliance Open	SWMSP - Table 8-1 SMSP - Table 4-1 Vehicles noted during ER site inspections using formed access roads and temporary construction access during site inspections

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
47	Select construction equipment to minimise the disturbance to soils.	Construction	CBI	Compliance Open	SWMSP - Table 8-1
48	Minimise duration of subsoil (including stockpiles) exposure to weather.	Construction	CBI	Compliance Open	SMSP - Table 8-6 Subsoil stockpile consisting of unsuitable material used to form bund wall in primary project area. Topsoil stockpiles seeded until required during rehabilitation works.
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.	Construction	CBI	NA Open	SMSP - Table 8-6 Earthworks still current with exception of Main Access Road - reinstatement works completed on northern side. South side to be completed once pipeline installed.
50	Re-vegetate exposed soils as soon as possible to reduce potential for sediment-laden runoff.	Construction	CBI	Compliance Open	VRWMP SMSP - Table 8-1 Topsoil stockpiles and batters hydromulched.
51	Provide wind-breaks (or equivalent control measures) around exposed areas and stockpiles to prevent wind erosion.	Construction	CBI	Compliance Open	SMSP - Table 8-3, Table 8-9

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
52	Place soil stockpiles upslope of excavations and not in drainage lines.	Construction	CBI	Compliance Open	SMSP - Table 8-3 Noted during site inspections topsoil stockpiles located along pipeline easement away from drainage lines. One excavation on site for sewage system for construction site office - stockpile located up gradient as observed during site inspections.
53	Construct roadside swales to capture runoff from the Primary Project Area access roads during construction.	Construction	CBI	Compliance Open	SMSP - Table 8-2 SWMSP - Table 8-2 Road side swales installed with rock checks to prevent erosion.
54	Design drains to minimise water velocities.	Construction	CBI	Compliance Open	SWMSP - Table 8-2 SMSP - Table 8-2 Drains relatively flat with rock checks installed where necessary to slow flow.
55	Install velocity reduction devices, such as sandbags, in drains and sloped drains to reduce erosion.	Construction	CBI	Compliance Open	SWMSP - Table 8-7 SMSP - Appendix C (Section 6) Sandbags and rock checks installed along Main Access Road where required.
56	Install sediment capture devices, such as silt fences and bunding, down-slope of exposed soils and soil stockpiles.	Construction	CBI	Compliance Open	SWMSP - Table 8-1 SMSP - Table 4-1

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
57	Construct suitably lined sediment control ponds down-slope of construction work areas upfront. These will subsequently be developed into permanent wetlands during the operations stage.	Construction	CBI	Compliance Open	SWMSP - Table 8-4 GWMSP - Table 8-1 CBI will construct the sediment pond as part of the early civil work. AGL will subsequently convert this to permanent wetlands during the operation stage.
58	Treat construction tracks to minimise surface degradation, e.g., compaction or topping with gravel.	Construction	CBI	Compliance Open	SWMSP - Table 8-1 SMSP - Table 4-1
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 reseeded.	Construction	CBI	Compliance Open	SMSP - Appendix C Section 4.2 Works within one water course on Old Punt Rd. Some disturbance in existing disturbed area (culverts). Further stabilisation using sandbags.
60	Divert runoff upstream of disturbed areas to existing drainage lines to prevent the risk of increasing erosion and requiring further sediment control measures.	Construction	CBI	Compliance Open	SWMSP - Table 8-2 SMSP - Table 4-1 Current project area slightly higher than surrounding land with exception of small areas along the Main Access Road. Diversion drains installed in these areas.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
61	Undertake daily inspections of all runoff, erosion and sediment control structures during the construction period.	Construction	CBI	Compliance Open	SMSP - Table 5-2 SWMSP - Section 5.0 Table 5-2. Checks completed daily (split into work areas with all areas covered over the week). All areas inspected after rainfall events.
62	Maintain runoff, erosion and sediment control structures according to appropriate standards.	Construction	CBI	Compliance Open	SMSP - Table 8-1 Controls checked weekly by CBI site staff.
63	Ensure silt fences are in a vertical position and securely fixed and remove sediment or residue behind sediment control barriers.	Construction	CBI	IO Open	SWMSP - Table 8-7 Checks for erosion completed and recorded.
64	Monitor earthwork areas regularly for signs of erosion.	Construction	CBI	Compliance Open	SWMSP -Table 8-1 SMSP - Table 5-2 includes general requirement to check all structures during all works CBI weekly reports indicated this is checked regularly.
65	Install and commission at the operations phase, runoff, erosion and sediment control measures as soon as practical.	Operations	AGL	NA Open	To be include in OEMP to be developed for operations phase

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<i>Discharge of Contaminated Water, Spills and Leaks</i>					
66	Minimise the volume of hazardous chemicals stored on site.	Construction	CBI	Compliance Open	SWMSP - Table 8-11 DG&HMMSP - Table 8-1 Minor volumes of chemicals stored on site in self bundled shipping containers - primarily cleaning fluids, minor quantities of fuel, oils and lubricants.
67	Store and transport hazardous materials according to their material safety data sheet (MSDS).	Construction	CBI	Compliance Open	SWMSP - Table 8-11 DG&HMMSP - Table 8-2 Flammables stored in flammable goods cabinet or in plastic bunds adequate to contain spills or leaks.
68	Store potentially contaminating chemicals according to the appropriate standards, including measures such as impervious bunded areas capable of capturing 110% of the maximum spill volume.	Construction	CBI	Compliance Open	SWMSP - Table 8-11 DG&HMMSP - Table 8-1 Fuel drums noted stored in plastic containers capable of holding content volume. No major quantities of chemicals currently stored on site



Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
69	Prepare a spill response plan and ensure adequate spill kits are available at all construction sites and personnel are trained in their use.	Construction	CBI	Compliance Open	SWMSP - Section 3.2 and Appendix D DG&HMSP - Table 8-4 and Appendix C Spill kit located at site office and in PPA. Small spill kits are required by the site to be carried by all vehicles on site. Random checks during site inspections by CBI staff and ER confirm compliance with site requirement. Toolbox talks detailing spill response completed
70	Maintain all construction equipment appropriately and inspect machinery for leaks.	Construction	CBI	Compliance Open	SWMSP - Table 8-11 All machinery checked daily and documented
71	Bund HDD entry points to prevent the release of leachate from drill cuttings, drilling fluids, or spills entering the surrounding environment, including the Hunter River.	Construction - Stage 2	Other	NA Open	Stage 2 CEMP - SWMSP
72	Implement hydrostatic test water management measures in consultation with HWC and NOW to determine and address requirements for testing and treating of this hydrostatic test water prior to re-use or disposal. Disposal options include infiltration to groundwater or discharge to an existing watercourse.	Construction	CBI	NA Open	SWMSP - Section 2.4. AGL to develop hydrostatic testing strategy and plan. AGL to develop Hydrostatic Test Water Management Plan by June 2013. Duplicates SoC 35

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b><i>Frac-out</i></b>					
73	A detailed geotechnical investigation will be undertaken prior to HDD under the Hunter River. This will include drilling investigation bore holes and shallow seismic surveys to provide detailed understanding of the geological strata under and adjacent to the river.	Preconstruction - Stage 2	Other	NA Open	Stage 2 CEMP
<b><i>7.2.2 Monitoring</i></b>					
74	<p>A surface water quality monitoring program will be developed as part of the CEMP and OEMP surface water management plan and in consultation with relevant authorities (OEH, NOW, and HWC). It will include preconstruction ('baseline'), construction and operations monitoring of water quality parameters. Monitoring will be undertaken within the primary project area and at surface runoff control facilities (such as sediment ponds). The following monitoring locations are proposed:</p> <ul style="list-style-type: none"> <li>• Sediment ponds (during construction only).</li> <li>• Holding and inspection tanks.</li> <li>• Outflow from the holding pond.</li> <li>• Water Features 1 and 2.</li> </ul> <p>The proposed stormwater containment and treatment system will be designed to provide treatment of surface water runoff from the site through containing, treating and adequately disposing of this runoff. Maintenance and monitoring will need to be undertaken to ensure discharges satisfy regulatory requirements.</p>	Preconstruction	AGL	Compliance Open	<p>SWMSP - Section 5.0 and Appendix C Baseline Water Data</p> <p>Appendix A - Figures including monitoring locations</p> <p>Sediment ponds in ESCP - to be updated as required</p> <p>Targets include in Appendix C</p> <p>Sediment ponds to be installed.</p>

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
	<p>Construction and operations monitoring results will be compared to target concentrations (trigger values) derived from baseline data. Where this is not possible due to insufficient data, the concentrations will be compared to recommended trigger value concentrations for protection of aquatic ecosystems (ANZECC, 2000).</p> <p>The plan will also require inspecting water levels in and the integrity of surface runoff control facilities (such as holding pond, bio-retention systems, drains, sumps and sediment fences) monthly and following significant rainfall.</p>				
<b>7.2.3 Modifications to Management and Mitigation Measures for Surface Water</b>					
75	A surface water baseline monitoring program is carried out before construction commences.	Preconstruction	AGL	Compliance Closed	Completed - refer EA SWMSP lists base - Table line data results in Appendix C
76	During the construction program, holding and sediment pond areas on site will be monitored monthly following the initial 12-month construction period. It is envisaged that a report on a six-monthly basis will be produced, however final requirements will depend on the specific planning approvals (and associated reporting requirements to different agencies) for surface water and groundwater monitoring.	Construction	CBI	Compliance Open	SWMSP - Table 5.1 details monitoring program requirement Holding and sediment pond areas under construction
77	AGL will appoint a peer reviewer for the engineering design of the stormwater management system.	Pre-construction	AGL	Compliance Closed	Confirmation email by Axel Hanson from Hunter Water Corporation dated 2-May-12 approving SMEC as the independent peer reviewer.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
					Review of design completed with email received from HWC 2 May 2012 with recommendations. Meeting held with HWC 20 July 2012 to discuss review and recommendations.  Submitted to DP&I on 8 June 2012
78	Stormwater from the site will be treated in accordance with PSC's 'Urban Stormwater and Rural Water Quality Management Plan for New Developments' and will therefore be of equivalent (or better) quality than stormwater from other sites within the municipality.	Construction	CBI	Compliance  Open	This Mgt Plan has been referenced in design of stormwater controls on site.  CEMP, EWMS, SWMSP  Refer various commitments for specific controls
79	Holding pond will be sized to accommodate up to a 1 year ARI.	Construction	CBI	Compliance  Open	SWMSP - refer Figure 5  Holding pond has been sized for up to 1 year ARI 24 hour storm.
80	Disposal of hydrostatic test water will be managed under the surface water management plan in consultation with relevant agencies.	Construction	CBI	NA  Open	SWMSP - Section 2.4. SWMSP has been submitted to agencies for review and accepted.  Hydrostatic testing not completed during period of reporting - AGL to develop Hydrostatic Test Water Management Plan - refer SoC 35 and 72.
81	AGL will prepare a stormwater management plan for the Project.	Preconstruction	CBI  Other	Compliance  Closed - CBI	SWMSP completed for CBI  Stage 2 to be completed
82	A flood emergency response plan will be prepared for the Hexham receiving station.	Preconstruction - Stage 2	Other	NA  Open	Stage 2

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
83	<p>The surface water management plan will be prepared in consultation with HWC, OEH and NOW, and will include, but not be limited to:</p> <ul style="list-style-type: none"> <li>a) A description of the quantity and source of all surface water supplies relating to construction and operations;</li> <li>b) Detailed baseline data on surface water quality;</li> <li>c) Surface water quality impact assessment criteria and a protocol for the investigation, notification and mitigation of identified exceedances;</li> <li>d) A program to monitor surface water quality;</li> <li>e) Detailed design of all water crossings, culverts and in-stream works;</li> <li>f) A program to monitor and manage watercourse crossings, culverts and in stream works;</li> <li>g) A protocol for the investigation, notification and mitigation of identified impacts associated with watercourse crossings, culverts and in stream works.</li> </ul>	Preconstruction	CBI	<p>NC-2</p> <p>Open</p>	<p>SWMSP - refer CoA 57d</p> <ul style="list-style-type: none"> <li>a) Section 2.3</li> <li>b) Baseline included in Section 5.2 and Appendix C</li> <li>c) Appendix C for assessment criteria.</li> </ul> <p>NC-2: Protocol for investigation, notification and reporting of identified exceedances needs to be added to Plan</p> <ul style="list-style-type: none"> <li>d) Monitoring program included in Section 5.1</li> <li>e) Design of water crossings, culverts and in stream works included in ESCP as part of SMSP - Section 10.2</li> <li>f) Program to monitor and manage watercourse crossings, culverts and in stream works added to plan</li> <li>g) NC-2: protocol for investigation, notification and mitigation of identified impacts associated with watercourse crossings, culverts and in stream works to be included in plan</li> </ul>
84	Water feature 4 is not disturbed by the access road corridor.	Preconstruction - Stage 2	Other	<p>NA</p> <p>Open</p>	Stage 2 CEMP - SWMSP

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
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.	Construction	CBI	Compliance Open	WMSP - Table 7-1  Both Wards toilet blocks had visible and audible alarms installed (ladies installed retrospectively after overflow incident). Now decommissioned. Construction office located on Primary Project Area  Wastewater pumped out is entered into materials tracking register.
86	There is a groundwater monitoring piezometer that is regularly sampled for pathogens and nutrients, downstream of the wastewater holding tank.	Construction	CBI	Compliance Open	GMSP - Table 8.1  Groundwater bore located to north (down gradient) of sewage holding tank (MW5). Analytes to be tested include nutrients and pathogens such as E. Coli, total or faecal coliforms to indicate sewage contamination.
87	Ensure that the banks of watercourses are not disturbed during construction.	Construction	CBI Other	NA Open	GWMSP - Table 8-1  Works within one water course on Old Punt Rd. Some disturbance in existing disturbed area (culverts). Further stabilisation using sandbags.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
88	<p>Those conditions 1 to 5 recommended by PSC are implemented for the Project.</p> <ol style="list-style-type: none"> <li>1) Full details of stormwater drainage shall be approved by an accredited certifier or Council prior to issue of Construction Certificate.</li> <li>2) Submission of Works-As-Executed plans and report prepared and certified by a suitably qualified drainage engineer confirming all drainage works (volume, discharge, levels, location etc.) are built in accordance with conditions of consent and the approved plan. The documents shall be submitted to, and accepted by the Certifying Authority prior to issue of the Occupation certificate.</li> <li>3) The stormwater system, including any water quality or quantity components, shall be maintained in perpetuity for the life of the development.</li> <li>4) Separate approval is required to occupy, close or partially close the road reserve adjacent to the property under the Roads Act. The storage of materials, placement of toilets and rubbish skips within the road reserve is not permitted.</li> <li>5) Provide water quality report that shows that the system for removal of nutrients and other pollutants meets the targets set out in Council's 'Urban Stormwater and Rural Water Quality management Plan' (see section 8). Details to be provided to the certifying authority prior to issue of the Con Cert.</li> </ol>	Pre operations	AGL (1,3,5) CBI (2,4)	Compliance  Open	<ol style="list-style-type: none"> <li>1) Completed.</li> <li>2) To be submitted once plant has been constructed</li> <li>3) Noted - to be include in OEMP to be developed for operations phase</li> <li>4) Refer Surveyors Plan for DP1173564 - current location of buildings is on shoulder of TAC access road. Check of PSC LEP for area confirms road is not a Public Road</li> <li>5) Completed</li> </ol>

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b>7.3 Groundwater</b>					
90	<p>A groundwater management plan will be prepared in consultation with relevant agencies and implemented as part of the CEMP and OEMP. The groundwater management plan will describe best practice control measures to reduce the risk of contamination of shallow groundwater, or the substantial alteration of groundwater flows due to drawdown effects. The proposed (onsite) monitoring network will be effective in identifying any impacts during both the site construction and operation of the facility.</p> <p>The groundwater management plan will define the groundwater monitoring network, analytes and frequencies, include a spill response plan and a contingency plan to respond to any spills or measured groundwater contamination during Project construction or operations. Groundwater levels will also be monitored at a selection of sites. It will also include a contingency plan to respond to any drawdown caused by HDD based on groundwater monitoring described in section 7.4.6 of the EA Main Report.</p>	Preconstruction	CBI Other - Stage 2	Compliance Open	<p>Email from HWC 31 October 2011 indicating satisfaction with plan.</p> <p>Email to DP&amp;I 9 August 2012 with correspondence attached endorsing GMSP from NOW</p> <p>Groundwater Management Sub Plan - sent in email to DP&amp;I dated 11 July 2012. Letter from DP&amp;I received 10/08/2012 approving plan for primary project area</p> <p>Groundwater Management Sub Plan - refer CoA B25 and B57</p> <p>Contingency plan to respond to any drawdown caused by HDD based on groundwater monitoring to be included in relevant GMSP (Stage 2).</p>
<b>7.3.1 Groundwater Levels and Flow</b>					
91	Minimise groundwater use.	Preconstruction	CBI	Compliance Open	<p>GMSP - Table 8-1</p> <p>Minor volumes of groundwater used during period from dewatering of excavations - used for dust suppression. Volume's recorded.</p>



Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
92	Discharge excess groundwater pumped from trenches during construction where possible to minimise temporary changes in local groundwater levels.	Preconstruction	CBI	Compliance Open	GMSP - Table 8-1 Groundwater pumped from pits recharged back to aquifer.
93	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.	Preconstruction	CBI	Compliance Open	GMSP - Table 8-2 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).
94	Undertake infiltration rate tests at the sites of proposed infiltration basins to determine local infiltration rates and the presence of indurated sand layers capable of inhibiting groundwater recharge.	Preconstruction	CBI	IO Open	IO - GMSP to include this SoC Infiltration basins were not installed during reporting period. Water from dewatering activities directed to sediment basin location and bund area with visual monitoring completed. Infiltration tests not completed and considered to be required.
95	Monitor groundwater levels within and at the boundaries of the gas plant site.	Preconstruction	CBI	Compliance Open	GMSP - Section 5.0 Monthly groundwater monitoring completed.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b>7.3.2 Groundwater Quality</b>					
96	<p>A groundwater baseline monitoring program has commenced and will continue during construction and operations. This includes measurement of groundwater levels and quality. Groundwater monitoring will be carried out throughout the life of the Project within the gas plant site.</p> <p>Measures for preventing contamination of surface water described in section 7.3.4 of the EA Main Report will assist in preventing the contamination of groundwater. Measures for preventing contaminated soils or ASS soils contaminating surface water are described in section 7.2.4 of the EA Main Report. These measures will prevent contamination of groundwater by negating the infiltration of contaminated surface water and the leaching of potential contaminants from the soil into the groundwater. A thorough geotechnical investigation will be completed prior to HDD commencing to ensure that it is designed to prevent groundwater contamination during construction.</p> <p>Water quality parameters to be monitored will be determined during development of the groundwater management plan and in consultation with HWC, OEH and NOW. A report presenting data and analysis of the six months of baseline water quality data (both groundwater and surface water) will be provided to HWC, OEH and NOW. The baseline report will review the interim thresholds and develop the final thresholds for water quality criteria for both the CEMP and OEMP.</p>	Preconstruction Preconstruction - Stage 2	AGL	Compliance Open - Stage 2	Baseline report completed and summary of results include in GWMP Stage 2 - Geotechnical investigation prior to HDD to be completed

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b>Spills and Leaks</b>					
97	The measures for preventing direct contamination of surface water include measures to prevent spills at the gas plant reaching groundwater.	All stages	AGL	Compliance Open	SWMSP GMSP - spill response contingency plan flowchart, Appendix E Spill Response Procedure
<b>7.3.3 Monitoring</b>					
98	<p>Groundwater monitoring will be undertaken in accordance with the groundwater management plan throughout the life of the Project in the PPA and during construction only at the Hexham receiving station site and adjacent to HDD entry and exit points, assuming no changes beyond expected natural variation are observed in these bores.</p> <p>Monitoring bores will be installed. There may be several phases of installation depending on the respective site and pipeline construction programs. A groundwater baseline will be established before construction commences (minimum six months at boundary locations).</p> <p>The final monitoring locations will be defined during development of the Groundwater Management Plan for the site and determined in consultation with HWC, OEH and NOW.</p> <p>A thorough geotechnical investigation will be completed prior to HDD commencing to ensure that it is designed to prevent groundwater contamination during construction.</p>	Preconstruction Preconstruction - Stage 2	CBI AGL	Compliance Open	GMSP - Section 5.0 Stage 2 - HDD GMSP to be developed Groundwater monitoring completed monthly and reported quarterly.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
	<p>Groundwater monitoring will be undertaken throughout the life of the Project in the PPA in accordance with the groundwater management plan. In addition the groundwater management plan will make provision for additional groundwater monitored at the Hexham receiving station site and adjacent to HDD entry and exit points during construction.</p> <p>Water quality parameters to be monitored will be defined during development of the groundwater management plan for the site and determined in consultation with HWC, OEH and NOW.</p> <p>Groundwater monitoring results will be evaluated against natural background concentrations (the primary comparison) and have relevance to ANZECC 2000 ecosystem trigger values and NHMRC 2004 Australian drinking water guidelines. Thresholds will be defined in the groundwater management plan for the site and determined in consultation with HWC, OEH and NOW. Exceedances above the final adopted thresholds would trigger responses as outlined in the contingency flow chart.</p> <p>The indicative groundwater monitoring program schedule is outlined in Table 7.1.</p>				
99	<p>Spill Response will include:</p> <p>(1) Clean-up of the contamination source;</p> <p>(2) Assess the groundwater quality with respect to relevant guidelines;</p>	Preconstruction	CBI (1, 3, 6), AGL (2, 4, 5)	Compliance  Open	GMSP 1. Appendix E 2. Section 2.0

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
	<p>(3) Advise OEH, NOW and HWC of any spill or leakage to unpaved ground that has potential to impact groundwater;</p> <p>(4) Undertake hydraulic containment using one or more downstream pumping bores;</p> <p>(5) install additional monitoring bores and increase monitoring frequency; and</p> <p>(6) Pump the contained water to a treatment facility for treatment and reinjection to groundwater if the water meets criteria.</p>				<p>3. Appendix E</p> <p>4. Appendix E and Figures 5 &amp; 6</p> <p>5. Appendix E</p> <p>6. Appendix E</p>
100	Advise OEH, NOW and HWC of any spill or leakage to unpaved ground that has potential to impact groundwater.	Construction	CBI AGL	Compliance Open	OEH notified in GMSP, Emergency Response Plan, CEMP and PIRMP. GMSP - Appendix E also includes requirement to contact NOW and HWC Two incidents reported to EPA during reporting period.
<b>7.3.4 Modifications to Management and Mitigation Measures for Groundwater</b>					
101	A groundwater assessment (at Hexham site) based on site redevelopment details are carried out.	Preconstruction - Stage 2	AGL	NA Open	Stage 2
102	NOW will be consulted regarding any construction dewatering of pipeline excavations to ensure that any extractions are properly licensed (if required).	Construction - Stage 2	Other	NA Open	Stage 2
103	AGL will ensure compliance with all statutory licensing requirements, including those stipulated by the conditions of approval.	Construction	AGL CBI	Compliance Open	GMSP - Section 5.0 Audit schedule, review of operations, CBI reporting

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
104	All water supplies for construction and operations will be sourced from an authorised and reliable supply.	Construction Operations	CBI	Compliance Open	GMSP - Table 8-1 Water sourced from HWC metered standpipe on Old Punt Rd
105	<p>A groundwater management plan will be prepared in consultation with HWC, OEI and NOW. The groundwater management plan will include, but not be limited to: A description of the quantity and source of all surface water supplies relating to construction and operations; A description of all dewatering activities including the quantity of groundwater to be taken; In relations to groundwater levels and quality:</p> <p>(i) a detailed baseline data on groundwater levels and quality,  (ii) Groundwater quality impact assessment criteria,  (iii) a program to monitor the effects of any change in groundwater levels and quality on groundwater dependent ecosystems,  (iv) A protocol for the investigation, notification and mitigation of identified exceedances of the groundwater quality impact assessment criteria,  (v) A strategy to prevent illegal dumping of waste on the site and any access roads or tracks.</p>	Preconstruction	AGL	Compliance Open	<p>GMSP - sent in email to DP&amp;I dated 11 July 2012 with acceptance of plan received August 2012 for Primary Project Area.</p> <p>Email from HWC 31 October 2011 indicating satisfaction with plan.</p> <p>Email to DP&amp;I 9 August 2012 with correspondence attached endorsing GMSP from NOW</p> <p>(i) Appendix C includes baseline water quality, depth. Duration and frequency of monitoring include in Table 5-2 Groundwater Monitoring Requirements  (ii) Performance criteria included in Section 5.1.1  (iii) Section 5.1.1 for water quality and changes in water levels (using CUMSUM)  (iv) Contingency Plan Flowchart Figure 5 and Appendix E for spills  (v) WMSP - Table 7-7 Illegal Dumping</p>

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
106	A groundwater monitoring piezometer will be installed and regularly sampled for pathogens and nutrients, downstream of the holding tank for wastewater.	Preconstruction	CBI	Compliance Closed	GMSP - Table 8.1. Refer SoC 86 (repeat). Groundwater bore located to north (down gradient) of sewage holding tank (MW5) Analytes tested for nutrients and pathogens such as E. Coli, total and faecal coliforms to indicate sewage contamination.
107	Groundwater monitoring data collected from the site will be provided to HWC, OEH and NOW.	Construction	CBI	Compliance Open	GWMP - Section 3.0 and Section 5.0 Groundwater monitoring completed monthly - review of correspondence sending reports to agencies to confirm compliance outstanding.
108	Monitor and assess groundwater quality with respect to background concentrations.	Construction	CBI	Compliance Open	GMSP - Section 5.0 Monthly groundwater monitoring reports not reviewed during this reporting period.
109	Conduct a review of the analytical suite of groundwater monitoring parameters following first 12 months of construction works.	Construction	CBI	Compliance Open	GMSP - Section 5.0, Appendix C Construction within first 12 months at date of report.
110	Prepare remediation action plan which is likely to include hydraulic containment using one or more down gradient (new) pumping bores (in the event of spill).	Construction	CBI	Compliance Open	GMSP - Appendix E and Figures 5 & 6 GMSP outlines approach to be taken in event of spill/pollution which includes hydraulic containment. In relation to specific event AGL may provide support to CBI when CBI is developing management strategy.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b>7.4 Flora and Fauna</b>					
<b>7.4.1 Flora</b>					
111	Limit the width of the construction right of ways for the gas pipeline (up to 10 m) where significant species and vegetation remnants are located (applies to gas pipeline corridor along northern boundary).	Preconstruction	CBI	Compliance Open	FFMSP - Appendix B, Table 8-9 Vegetation Clearing Protocol, Table 8-10 Earp's Gum Protection Protocol  The current WP drawings show the whole of the 30m easement being cleared along the gas access track, with 10m being used to create a track.  Letter from ecoBiological 14/05/2012 confirming that there are no significant species or ecological communities which would limit the clearing to 10m.
112	Re-vegetate relevant sections of the right of ways with suitable native species that comply with pipeline license requirements (e.g., no large tree species) as soon as practicable following construction.	Preconstruction - Stage 2	Other	NA Open	Currently not referenced in FFMSP or VRMSP as CBI not completing works - pipeline installation contractor to add in their plans as required.
113	Allow an appropriate buffer distance (to be determined when developing the CEMP) between any construction activity and remnant native vegetation, where practicable. In such situations, strict erosion controls will be implemented to prevent sediment-laden runoff entering the adjacent vegetation.	Preconstruction	AGL	Compliance Open	VRSMP Appendix B Table 8-2
114	Ensure vehicle and equipment parking areas and stockpile areas are identified and sited to avoid areas containing ecological value.	Preconstruction	CBI	Compliance Open	FFMSP - Appendix B Table 8-2 Access



Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
					Table 8-10 Earp's Gum Protection Protocol VRSMP Appendix C SWMSP - Table 8-11 CEMP - includes location of stockpiles and offices. Areas located within delineated project area. ER and CBI inspections confirm locations.
115	Erect flagging tape to mark 'no-go' zones to ensure areas to be protected are clearly defined, identified and avoided.	Preconstruction	AGL	Compliance Closed - CBI	FFMSP - Appendix B Table 8-1 General Construction Table 8-6 Pre-clearing Protocol Table 8-10 Earp's Gum Protection Protocol Table 8-12 Koala Protection Protocol Table 8-13 Hollow dependant Threatened Fauna Protection Protocol VRSMP Appendix C Site inspections confirmed flagging tape delineated boundary of works.
116	Identify appropriate biodiversity offsets consistent with 'improve or maintain' principles.	Preconstruction	AGL	Compliance Closed	Refer Offset Strategy ecoBiological May 2012

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
117	Use native vegetation grown from local seed banks for re-vegetation where appropriate.	Preconstruction	AGL (responsible for seed bank), Other responsible for re-vegetation	Compliance  Open	VRSMP Appendix D, Appendix B Table 8-5  Re-vegetation works yet to commence at time of report
118	Limit access to sensitive areas of riverbanks and riparian vegetation during construction of the pipelines where practicable to avoid inadvertent or unauthorised disturbance of adjacent vegetation.	Preconstruction	AGL	NA  Open	Stage 2 Pipeline contractors to include in their FFMSF
119	Reinstate logs and rocks, which are removed for pipeline construction, along the right of ways or relocate them to appropriate nearby habitats.	Construction - Stage 2  Operations	Other	NA  Open	Stage 2 Pipeline contractors to include in their FFMSF
120	Trim vegetation where possible rather than removing it.	Construction  Operations	CBI	Compliance  Open	VRSMP Section 3.2  ER site inspections confirm trees left along boundaries and trimmed where possible - refer inspection reports.
121	Re-vegetate disturbed areas where possible, other than those required for permanent use, access to the easement or facilities or for bushfire protection areas. The following procedures will be followed during re-vegetation: <ul style="list-style-type: none"> <li>Reinstate topsoil;</li> <li>Re-spread cleared vegetation in the Project area to facilitate natural regeneration of native vegetation,</li> </ul>	Construction  Operations	Other	Compliance  Open	FFMSF - Appendix B  Table 8-1 General Construction  Table 8-9 Vegetation Clearing Protocol  VRSMP - Table 8-2, Table 8-5, Section 3.1, Section 5  Re-vegetation works yet to commence at time of report

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
	<p>where appropriate;</p> <ul style="list-style-type: none"> <li>Undertake weed control where necessary to promote the rehabilitation of re-vegetated areas;</li> <li>In consultation with the landowner, fence rehabilitated areas until successful re-vegetation is evident or until such time as the landowner requests fencing to be removed;</li> <li>Monitor rehabilitation success, and undertake supplementary active re-vegetation (as outlined above), if required.</li> </ul>				
<b>7.4.2 Fauna</b>					
122	Prepare a detailed fauna translocation (displacement) protocol to assist in the translocation of wildlife during the clearing process.	Preconstruction	AGL	Compliance Closed	FFMSP – Appendix B Table 8.8 General Fauna Displacement Protocol
123	Use HDD where warranted.	Construction - Stage 2	Other	NA Open	Stage 2
124	Minimise the length of time that construction trenches remain open, particularly in areas where habitat for significant species has been identified nearby.	Construction	CBI	Compliance Open	FFMSP – Appendix B Table 8-1 General Construction  One pit excavated at the intersection of the gas pipeline and Ausgrid powerline easement during report period –open for two days before being backfilled
125	Clear fauna from the right of way prior to vegetation clearing and implement mitigation measures where habitat is present.	Pre-clearing	AGL	Compliance Closed	FFMSP – Appendix B Table 8-9 Vegetation Clearing Protocol

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
					Clearing process now completed - Ecobiological completed report "Vegetation Clearing for Newcastle Gas Storage Facility" (November 2012) detailing fauna rescue and relocations. Total of 57 animals rescued from clearing zone.
126	Remove habitat features, such as rocks and logs, from the right of way prior to clearing, and carefully stockpile prior to clearing and return during easement restoration. Inspect these features for signs of fauna and remove habitat features prior to clearing the right of way.	Pre-clearing	CBI	Compliance Closed	FFMSP Appendix B Table 8-6 Pre clearing protocol.  One significant rock in area - will remain in PPA.  No rocks or logs suitable for restoration works were identified by Ecobiological as per report "Vegetation Clearing for Newcastle Gas Storage Facility" (November 2012).
127	Conduct pre-clearing surveys prior to any tree felling to identify hollow-bearing trees, which will be left standing, where practicable. Nesting boxes will be placed into nearby trees where hollow-bearing trees are removed.	Pre-clearing	AGL	Compliance Closed	FFMSP - Appendix B Table 8-6 Pre-clearing Protocol,  Table 8-7 Hollow Bearing Tree Clearing Protocol  Ecobiological detailed process in report "Vegetation Clearing for Newcastle Gas Storage Facility" (November 2012). ER site inspections also noted protocol followed - refer inspection reports.  Clearing now completed.
128	Conduct pre-construction trapping and relocation of targeted species where possible in specified ecologically sensitive locations.	Pre-clearing	AGL	Compliance Closed	FFMSP - Appendix B  Table 8-8 General Fauna Displacement Protocol

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
					Table 8-11 New Holland Mouse Protection Protocol Table 8-12 Koala Protection Protocol Ecobiological detailed trapping results in report "Vegetation Clearing for Newcastle Gas Storage Facility" (November 2012). No New Holland Mice found during trapping program. Clearing now completed
129	Monitor open sections of trenches as required for trapped animals, such as small ground-dwelling mammals, particularly in areas where sensitive habitat has been identified.	Construction	CBI	Compliance Open	FFMSP - Appendix B, Table 8-15 Monitoring Excavations checked daily by CBI environment staff and Daracon subcontractors.
130	Ensure fauna ramps are regularly incorporated into open sections of trench to allow animals that have fallen into the trench to make their way out	Construction	CBI	Compliance Open	FFMSP - Appendix B Table 8-1 General Construction Table 8-15 Monitoring All excavations have ramps for human and fauna escape.
131	Re-vegetate disturbed areas where possible, other than those required for permanent use, access to the easement or facilities, or for bushfire asset protection. Replace terrestrial habitat features, such as rocks and logs, following construction with landowner approval. Where landowner approval cannot be obtained, replace rocks and logs in another suitable location.	Construction	CBI	Compliance Open	VRMSP - Table 8-5 Refer SoC 126 No revegetation works during report period

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
132	Manage re-vegetated areas (specific techniques to be developed as part of the CEMP to prevent overgrazing from native fauna and introduced pest animals.	Construction	CBI	Compliance Open	VRMSP - Table 8.5 Revegetation works yet to commence
<b>Gas Plant Site</b>					
133	A number of avoidance and minimisation measures have been incorporated into the Project design, for example, the rigorous route selection of the pipeline alignments to avoid significant species and habitat.	Construction	AGL	Refer below	Design layout
134	Gas plant facility will be located at the western end of the gas plant site and partially on previously disturbed land to minimise clearing of established flora and fauna communities (including preferred koala habitat), east of the gas plant site.	Preconstruction	AGL	Compliance Closed	Final design - plant is located at western end of land
135	Develop and implement comprehensive CEMP and OEMP. These documents will include detailed information about significant flora and fauna species, their management and on-going conservation recommendations.	Preconstruction Pre-operations	CBI AGL	Compliance Open	FFMSP - CEMP completed OEMP to be developed for operations phase to be developed closer to commissioning
136	Clearing of Earp's gum will be minimised by: (1) Mapping location of individual Earp's gums within 100m of facility; (2) Marking sensitive 'no-go' areas; (3) Limiting amount of disturbance during construction phase;	Preconstruction	AGL (1,2), CBI (3, 4)	Compliance Closed	FFMSP Appendix D - Table 8-10 1) Figure 2 of FFMSP 2) No go areas marked out with tape and parawebbing 3) Disturbance limited to project footprint 4) Access tracks only used for vehicles All controls noted as implemented in Ecobiological report "Vegetation Clearing for Newcastle Gas Storage Facility" (November 2012).

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
	(4) Ensuring vehicles keep to designated tracks.				Clearing completed - boundary delineated with fencing. Earp's Gums adjacent to boundary marked.
137	A biodiversity offsets strategy will be prepared and implemented in consultation with OEH and DSEWPaC.	Preconstruction	AGL	Compliance Closed	Refer Biodiversity Offset Strategy prepared by Ecobiological May 2012 Correspondence from DP&I accepting Strategy sighted.
138	The CEMP will include management strategies to mitigate work-site lighting, dust suppression and noise associated with the construction phase of the Project.	Preconstruction	CBI	Compliance Open	CEMP Dust - AQMSP, Noise - NVMSPP Site inspections indicate compliance during current construction activities
139	A habitat management plan will be prepared to document offset areas.	Preconstruction	AGL	NA Open	AGL to develop plan.
140	The CEMP and OEMP will include vegetation and weed management plans to prevent spread of weed species and avoid disturbance on quality and functioning of sensitive ecological communities.	Preconstruction	CBI Other	Compliance Open	VRMSP - Table 8-4. Weeds sprayed prior to clearing works. Weed material stockpiled into separate piles and disposed off-site to landfill. Daily and weekly CBI inspections check for new weed outbreaks.
141	The OEMP will consider appropriate measures associated with lighting of facility, e.g., downward facing lighting, to minimise light pollution and impacts on light-sensitive fauna.	Pre operations	Other	NA Open	OEMP to be developed prior to operations commencing

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
142	Surface water management plan will be implemented, particularly the best practice sediment and erosion control measures, to avoid impacts on surface water quality.	Construction	CBI	Compliance Open	SWMSP completed - implementation checked during daily and weekly inspections completed by CBI staff. Area relatively flat and ground sandy lowering erosion potential. Silt fences installed along work boundaries to prevent off site transport of sediment.
143	Implement a pest animal control program on areas owned and/or managed by AGL to prevent increase in pest animal populations in the vicinity of the gas plant site.	Construction	CBI	Compliance Open	FFMSP - Table 8-4 Feral Animals Wild dogs noted on site - EPA trapping program covers the area. No other pest animals noted on CBI inspection reports or during ER inspections
144	Fencing will be in accordance with PSC's Koala Plan of Management to allow for fauna dispersion. Fencing around facility will be vermin proof security fencing to prevent fauna entering the site.	Construction	CBI	Compliance Open	FFMSP - Table 8-12 Koala Protection Permanent fencing installed as per PSC's Koala Plan of Management (rural).
<b>Access road and utility corridor</b>					
145	The access road and utility corridor will be partially located on land already cleared for fire trails and for electricity easements. This will minimise clearing of key flora and fauna communities within the Swamp Mahogany and Woodland Rehabilitation communities.	Preconstruction	AGL	Compliance Closed	Final design of road access completed with fire trails and electricity easements used where possible.
146	The alignment of the access road and utility corridor will avoid clearing of Earp's gum.	Preconstruction	AGL	Compliance Closed	Initial design would have removed 67 Earps Gums. Final design removed 4.



Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
147	Fencing around sensitive 'no go' areas will be erected and speed limits will be in accordance with PSC's Koala Plan of Management to avoid or minimise death or injury of wildlife.	Preconstruction	CBI	Compliance Closed	FFMSP – Table 8-1, 8-12 Site inspections indicate project areas marked with flagging initially and replaced with parawebbing once boundaries surveyed. Earps gums marked off with parawebbing prior to clearing.
148	Perimeter fencing of Access Road and utility corridor will be in accordance with PSC's Koala Plan of Management to allow fauna dispersion beyond the corridor.	Preconstruction	CBI	Compliance Open	FFMSP – Table 8-12 Koala Protection Protocol No permanent fencing installed at time of report
<b><i>Preferred Gas Pipeline Access Corridor</i></b>					
149	Clearing of Redgum-Earp's gum-Apple-Banksia Forest will be minimised by: <ul style="list-style-type: none"> <li>Limiting amount of disturbance during construction phase;</li> <li>Ensuring vehicles keep to designated tracks.</li> </ul>	Preconstruction - stage 2	Contractor - Stage 2	NA Open	Stage 2 of works
150	Clearing of Earp's Gum-Apple Banksia Forest will be minimised by - Marking 'no go' areas where possible.	Preconstruction - stage 2	Contractor - Stage 2	NA Open	Stage 2 of works
151	Perimeter fencing of Gas pipeline access corridor will be in accordance with PSC's Koala Plan of Management to allow fauna dispersion beyond the corridor.	Preconstruction - stage 2	Contractor - Stage 2	NA Open	Stage 2 of works

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
152	Pipeline corridor will be located on previously disturbed land or alongside road easements to avoid removal of Swamp Mahogany-Paperbark Swamp Forest and Phragmites Rushland.	Preconstruction - stage 2	Contractor - Stage 2	NA Open	Stage 2 of works
153	Selection of pipeline corridor (option 2) and HDD will be used to avoid removal of Phragmites Rushland, Hunter River, SEPP 14 Coastal Wetlands and SEPP 71 Coastal Protection Areas where practicable.	Preconstruction - stage 2	Contractor - Stage 2	NA Open	Stage 2 of works
153A	The surface water management plan will be implemented to avoid disturbance from water runoff and erosion.	Preconstruction - stage 2	Contractor - Stage 2	NA Open	Stage 2 of works
154	Geotechnical investigations, specialist site design and suitable management of required materials will be carried out to minimise frac-out associated with HDD.	Preconstruction - stage 2	Contractor - Stage 2	NA Open	Stage 2 of works
155	Ensuring that works occur when favourable weather conditions prevail.	Construction - Stage 2 Operation	Contractor - Stage 2	NA Open	Stage 2 of works
155A	Use sediment fences and/or sterile straw bales down slope of exposed soil and stockpiles	Construction - Stage 2 Operation	Contractor - Stage 2	NA Open	Stage 2 of works
156	Undertake rapid seeding and re-vegetation of disturbed areas to limit the time soil is exposed to erosion.	Construction - Stage 2 Operation	Contractor - Stage 2	NA Open	Stage 2 of works

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<i>Threatened Ecological Communities</i>					
<i>Access Road and Utility Corridor</i>					
156A	Worksite lighting will be kept to a minimum.	Construction Operation	CBI	Compliance  Open	CEMP - Appendix A7 Table 12-5  No lighting along access road during current phase of works. All works completed during daylight hours with no permanent infrastructure installed including lighting.
157	The access road and utility corridor will be partially located on land already cleared for fire trails. This will minimise clearing of key flora and fauna communities within the Swamp Mahogany and Woodland Rehabilitation communities.	Construction Operation	Contractor	Compliance  Closed	Access road and utility corridor have been sited to minimise clearing of key flora and fauna communities within the Swamp Mahogany and Woodland Rehabilitation communities.
158	Explore implementing the following options: Use of passive means of lighting, such as installing reflector roadway markers, lines, warning or information signs and attaching reflectors to furnishings, Use solar-powered light emitting diode studs to highlight roadways and paths of travel, Use of directional lighting focussed only upon areas to be illuminated and not mounted higher than an appropriate height from grounds. This will assist in reducing visual impacts from light spill.	Construction Operation	CBI AGL	NA  Open	Design to be clarified

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<i>Preferred Pipeline Corridor (Option 2)</i>					
159	Pipeline corridor will be located on previously disturbed land or alongside road easements to avoid removal of Swamp Mahogany-Paperbark Swamp Forest and Phragmites Rushland.	Construction - Stage 2 Operation	Other	NA Open	Stage 2 of project
160	Selection of pipeline corridor (option 2) and HDD will be used to avoid removal of Phragmites Rushland, Hunter River, SEPP 14 Coastal Wetlands and SEPP 71 Coastal Protection Areas where practicable.	Construction - Stage 2 Operation	Other	NA Open	Stage 2 of project
160A	The CEMP will include an ASS management plan to minimise potential ASS	Preconstruction - Stage 2	Other	NA Open	Stage 2 of project
160B	The surface water management plan will be implemented to avoid disturbance from water runoff and erosion	Preconstruction - Stage 2	Other	NA Open	Stage 2 of project
160C	The CEMP and OEMP will include vegetation and weed management plans to prevent spread of weed species and ensure avoid disturbance on quality and functioning of sensitive ecological communities	Preconstruction - Stage 2	Other	NA Open	Stage 2 of project
160D	Geotechnical investigations, specialist site design and suitable management of required materials will be carried out to minimise frac-out associated with HDD	Construction - Stage 2	Other	NA Open	Stage 2 of project
160E	Use sediment fences and/or sterile straw bales down slope of exposed soil and stockpiles	Construction- Stage 2 Operation	Other	NA Open	Stage 2 of project

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
160F	Ensuring that works occur when favourable weather conditions prevail	Construction - Stage 2	Other	NA Open	Stage 2 of project
160G	Undertake rapid seeding and revegetation of disturbed areas to limit the time soil is exposed to erosion	Construction - Stage 2	Other	NA Open	Stage 2 of project
<b><i>'SEPP 14 Coastal Wetlands</i></b>					
161	HDD will be used to avoid removal of SEPP 14 Coastal Wetlands for preferred pipeline corridor (option 2).	Preconstruction - Stage 2 Construction	Other	NA Open	Stage 2 of project
162	The surface water management plan will be implemented to avoid disturbance from water runoff and erosion.	Construction- Stage 2 Operation	Other	NA Open	Stage 2 of project
<b><i>SEPP 71 Coastal Protection Areas</i></b>					
163	HDD will be used to avoid removal of SEPP 71 Coastal Protection Areas where practicable.	Construction- Stage 2 Operation	Other	NA Open	Stage 2 of project
164	Construction right of way will be reduced to 10 m to minimise removal of SEPP 71 Coastal Protection Areas.	Construction- Stage 2 Operation	Other	Compliance Open	Received letter from ecoBiological on 14-May-12 confirming no threatened species or ecological communities identified within the gas pipeline corridor and therefore SEPP71 vegetation will not be removed.  Stage 2 of project

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b>SEPP 44 Koala Habitat Areas</b>					
165	The Project components will be sited to avoid or minimise preferred koala habitat where possible	Preconstruction	AGL	Compliance Closed	Final project layout sited to west to avoid koala habitat.
166	Clearing of supplementary koala habitat will be avoided or minimised through HDD or reducing construction right of way where practicable	Construction - Stage 2	Other	NA Open	Stage 2 of Project
167	Identifying and restoring potential koala habitat will be undertaken in consultation with PSC	Construction Operation	AGL	NA Open	To be assessed.
168	Fencing around pipeline easements within Lot 105 will be in accordance PSC's Koala Plan of Management to ensure Koala movement beyond the Project area	Construction Operation	CBI	Compliance Open	FFMSP - Table 8-12 Koala Protection. Fencing for Lot105 has been specified by WP in detailed design work.  Permanent fencing four wire rural fence
169	Speed limits along the access road and utility corridor will be in accordance with PSC's Koala Plan of Management to minimise injury or death to koalas and other wildlife	Construction Operation	CBI	Compliance Open	FFMSP - Table 8-12 Koala Protection  Access road and utility corridor under construction at time of report. Construction speed limit 20km/h.
<b>Habitat and Corridors</b>					
170	Construction right of way will be reduced, where possible, to minimise removal of sensitive vegetation and habitat.	Construction Operation	AGL	Compliance Closed	Pre-construction - surveys completed by Ecobiological prior to clearing to ensure endangered flora not removed. Sighting of access roads along fire trails and electricity easements completed where possible.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b><i>Instream Habitats</i></b>					
171	Geotechnical investigations, specialist site design and suitable management of required materials will be carried out to minimise frac-out associated with HDD.	Construction - Stage 2 Operation	AGL	NA Open	Stage 2 of Project
<b><i>Groundwater dependant ecosystems (GDEs)</i></b>					
172	The implementation of management measures identified in groundwater assessment, including implementation of groundwater management plan and surface water management plan to avoid disturbance from water runoff and erosion, will avoid measurable impacts to groundwater quality, levels or flow and on groundwater dependent ecosystems.	Construction Operation	CBI, AGL to implement monitoring component	Compliance Open	GWMSp and SWMP developed and implemented. Audits against implementation completed as per CEMP.
173	Conduct pre-clearing surveys on identified clearing areas.	Pre-clearing	CBI	Compliance Closed - CBI	FFMSP – Table 8-6 Pre Clearing Protocol Ecobiological completed surveys in morning prior to works commencing. Refer Ecobiological report “Vegetation Clearing for Newcastle Gas Storage Facility” (November 2012).
174	All hollow-bearing trees to be soft-felled by experienced machine operator.	Construction Operation	CBI	Compliance Closed - CBI	FFMSP – Table 8-7 Hollow Bearing Tree Clearing Protocol. Refer Ecobiological report “Vegetation Clearing for Newcastle Gas Storage Facility” (November 2012).

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
175	Remove habitat features, such as rocks and logs, from the right of way prior to clearing, and carefully stockpiled prior to clearing and returned, where possible, during easement restoration.	Construction Operation	CBI	Compliance  Closed	Refer SoC 126 and 131  One significant rock in area - will remain in PPA.  No rocks or logs suitable for restoration works were identified by Ecobiological as per report "Vegetation Clearing for Newcastle Gas Storage Facility" (November 2012).
<b>EPBC - Earp's Gum</b>					
	The gas plant facility will minimise clearing of the Woodland Rehabilitation community to the northern portion. This will avoid fragmentation of the existing Earp's gum population	Preconstruction Construction	AGL CBI	Compliance  Closed	Siting of plant to west and north edge of project area. Four Earp's Gums removed during clearing works rather than 67 as originally assessed.
176	Clearing of Earp's gum will be minimised by: - Mapping location of individual Earp's gum within 100 m of gas plant facility and access road and utility corridor.	Preconstruction Construction	AGL	Compliance  Closed	FFMSP - includes map with location of Earp's Gums.
177	Clearing of Earp's gum will be minimised by: - Marking 'no go' areas where possible.	Preconstruction Construction	AGL	Compliance  Closed	FFMSP - Table 8-10 Earp's Gum Protection Protocol, site inspection reports. Earp's Gums on edge of project area marked with parawebbing to prevent accidental removal or damage. Project area defined by temporary taping replaced with parawebbing once boundary lines surveyed.



Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
178	Clearing of Earp's gum will be minimised by: - Limiting amount of disturbance during construction phase.	Preconstruction Construction	CBI	Compliance Closed	FFMSP - Table 8-9, site inspection reports  Project area clearly marked. Vehicles remained on marked access tracks. Earp's Gums on edge of project area marked with parawebbing to prevent accidental removal or damage. Project area defined by temporary taping replaced with parawebbing once boundary lines surveyed.
179	Clearing of Earp's gum will be minimised by: - Ensuring vehicles keep to designated tracks.	Preconstruction Construction	CBI	Compliance Closed	FFMSP - Table 8-2 Access
<b>EPBC - Dwarf Kerrawang</b>					
180	No removal of potential dwarf kerrawang habitat is envisaged. However, clearing of potential suitable habitat will be limited to disturbed areas across the Project area.	Preconstruction Construction	CBI	Compliance Closed	Not included in FFMSP however, not required as no clearing of dwarf kerrawang habitat.  EcoBiological mapped all vegetation on site and marked out limit of area to be cleared.  Clearing restricted to marked areas as stipulated in FFMSP - Table 8-1 and Table 8-2.
<b>EPBC - New Holland Mouse</b>					
181	The clearing of suitable New Holland mouse habitat, the Heath Rehabilitation community, will be avoided.	Preconstruction Construction	AGL	Compliance Closed	Site inspections during pre-clearing and clearing, EcoBiological report issued. Final area to be cleared moved to west and north of project area to avoid area

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
182	The Project will minimise the clearing of similar suitable habitat (including Coastal Sand Apple-Blackbutt Forest) by where possible locating Project components in disturbed areas or by reducing construction widths of right of ways.	Preconstruction Construction	AGL	Compliance Closed	Site inspections during pre-clearing and clearing, EcoBiological Report issued - main access and pipeline corridor limited to fire trails and electricity easement where possible.
183	The OEMP will consider appropriate measures associated with lighting to minimise impact on the light-sensitive New Holland mouse.	Preconstruction Construction	AGL	Compliance Open	Check final design if included. OEMP to be developed for operations phase
183A	Prepare and detailed biodiversity offsets strategy that includes implementation of a recovery plan for the New Holland mouse in consultation with the OEH and DSEWPaC	Preconstruction Construction	AGL	Compliance Closed	Offset Strategy report prepared by ecoBiological dated May 2012  15-Aug-12: Approval received from the Director General.  Biodiversity report states that PSC, OEH and DSEWPaC consulted during development of offset strategy
<b>EPBC - Migratory Species</b>					
184	HDD and reducing construction widths of right of ways will avoid or minimise removal of suitable habitat associated with regent honey eater, swift parrot, satin flycatcher, black-faced monarch and rufous fantail, respectively. These communities are: Alluvial Tall Moist Forest, Redgum-Apple-Banksia Forest, Swamp Mahogany-Paperbark Swamp Forest, Coastal Sand Apple-Blackbutt Forest.	Preconstruction Construction	AGL	Compliance Open	ROW restricted to 30m and within design boundaries

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<i>EPBC - Hunter estuary wetlands</i>					
185	Geotechnical investigations, specialist site design and suitable management of required materials will be carried out to avoid risk of frac-out associated with HDD.	Preconstruction - Stage 2	Contractor	NA Open	Stage 2
	The surface water management plan will be implemented to avoid disturbance from water runoff and erosion	Preconstruction - Stage 2	Contractor	NA Open	Stage 2
	The CEMP will include an ASS management plan to avoid ASS entering the Hunter River	Preconstruction - Stage 2	Contractor	NA Open	Stage 2
186	The implementation of management measures identified in groundwater assessment, including the surface water management plan to avoid disturbance from water runoff and erosion, will avoid measurable impacts to groundwater quality, levels, flow and therefore on the Hunter Estuary Wetlands.	Preconstruction - Stage 2	Contractor	NA Open	Stage 2
186A	Ensure construction works occur when favourable weather conditions prevail	Preconstruction - Stage 2	Contractor	NA Open	Stage 2
186B	Use sediment fences and/or sterile straw bales down slope of exposed soil and stockpiles	Preconstruction - Stage 2	Contractor	NA Open	Stage 2
187	Undertake rapid seeding and re-vegetation of disturbed areas to limit the time soil is exposed to erosion.	Preconstruction - Stage 2	Contractor	NA Open	Stage 2

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
188	Noise attenuation measures associated with HDD will be considered to minimise impacts on significant bird species.	Preconstruction - Stage 2	Contractor	NA  Open	Stage 2 CEMP - NVMSPP
<b>7.4.3 Monitoring</b>					
189	Inspect 'no-go' areas to ensure they are clearly marked prior to clearing activities.	Pre-clearing	AGL	Compliance  Closed - CBI	FFMSP - Appendix B Table 8-1 General Construction Table 8-6 Pre-clearing Protocol Table 8-10 Earp's Gum Protection Protocol Table 8-12 Koala Protection Protocol Table 8-13 Hollow dependant Threatened Fauna Protection Protocol  Earps gums marked and other no go areas marked with tape. All clearing and scrubbing works completed with ecologist on site to prevent accidental clearing - refer to Ecobiological report "Vegetation Clearing for Newcastle Gas Storage Facility" (November 2012).
190	Conduct pre-clearing surveys prior to any tree felling to identify hollow-bearing trees, which will be left standing, where practicable. Nesting boxes will be placed into nearby trees where hollow-bearing trees are removed.	Pre-clearing	AGL	Compliance  Closed - CBI	FFMSP - Appendix B Table 8-7 Hollow Bearing Tree Clearing Protocol  Pre-clearing surveys completed by Ecobiological - refer to Ecobiological report "Vegetation Clearing for Newcastle Gas Storage Facility" (November 2012).

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
191	Conduct pre-construction trapping and relocation of targeted species in specified ecologically sensitive locations.	Preconstruction	AGL	Compliance Closed - CBI	FFMSP - Appendix B Trapping for New Holland Mouse completed by Ecobiological - refer to Ecobiological report "Vegetation Clearing for Newcastle Gas Storage Facility" (November 2012).
192	Supervise construction activities in sensitive areas to ensure procedures for spread move around, reduced right of way, HDD etc. are being implemented, where required.	Construction	CBI	Compliance Open	FFMSP - Appendix B
193	Monitor rehabilitated areas periodically to evaluate the success of rehabilitation procedures within Project components.	Construction	CBI, AGL	NA Open	VRMSP - Section 5.0 and Appendix B Table 8-5 Rehabilitation activities yet to commence at time of report
194	Monitor trenched sections daily for trapped animals such as reptiles and small ground-dwelling mammals, particularly in areas where sensitive habitats have been identified.	Construction	CBI	Compliance Open	FFMSP - Appendix B Table 8-15 Monitoring One pit excavated at the intersection of the gas pipeline and Ausgrid powerline easement during report period -open for two days before being backfilled. Monitored by CBI environment staff
<b>7.4.4 Biodiversity Offsets</b>					
195	AGL will secure a biodiversity offsets package for the Project in consultation with OEH, DP&I and the DSEWPaC prior to the commencement of construction. It is currently proposed that the Biodiversity Offset Package will comprise:	Preconstruction	AGL	Compliance Open	Referred to in FFMSP but detail in 'Conservation Agreement' with OEH  Offset Strategy report prepared by ecoBiological dated May 2012

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
	<ul style="list-style-type: none"> <li>• Offsets which will be assessed in accordance with the Biobanking assessment methodology to ensure reasonably 'like for like' principle and vegetation types to those impacted by the Project.</li> <li>• Additional rehabilitation to offset loss of up to 15 Eucalyptus parramattensis (Earp's gum) from the development site.</li> </ul> <p>A number of potential offsets sites have been identified and AGL is committed to continuing to assess these sites and consult with landowners and the OEH, DP&amp;I and DSEWPaC to determine the final preferred offsets.</p> <p>AGL is committed to securing the selected offsets in perpetuity with appropriate management regimes and financial security via one or more of the following mechanisms:</p> <ul style="list-style-type: none"> <li>• Conservation agreement under the National Parks and Wildlife Act 1974 (NSW) (NPW Act).</li> <li>• Dedication of land under the NPW Act.</li> <li>• Planning agreement under the EP&amp;A Act</li> <li>• Trust agreement under the Nature Conservation Trust Act 2001 (NSW).</li> <li>• Biobanking agreement under the Threatened Species Conservation Act 1995 (NSW).</li> </ul>				<p>"BioBanking Assessment Methodology" (Seidel and Briggs 2009) adopted for determining the extent and type of offset required by AGL.</p> <p>Medowie Conservation Area Offset Monitoring Protocol prepared by ecoBiological dated May 2012</p> <p>Draft Conservation Agreement for Lot 20 at 3 Old Swan Bay Road, Medowie</p> <p>Draft Conservation Agreement for Lot 16 at 218 Old Swan Bay Road, Medowie.</p> <p>4 Earp's gums removed from development site.</p> <p>60 plants will be established in Hunter Region Botanical Gardens</p> <p>Biodiversity report states that PSC, OEH and DSEWPaC consulted during development of offset strategy</p> <p>Correspondence from DP&amp;I accepting Strategy dated 15 August 2012</p>

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b>7.4.5 Modifications to Management and Mitigation Measures for Flora and Fauna</b>					
196	The internal access road into the gas plant site will be redesigned to greatly reduce the number of Earp's gum requiring removal.	Preconstruction	AGL	Compliance Closed	Road realigned to avoid clearing Earp's Gums. Four gums removed during clearing works - reduced from 67 predicted in EA. Clearing now completed
197	Seed collected from Earp's gum within the site will be provided to the Hunter Botanic Gardens to propagate the seed and plant the seedlings on their property. A habitat management sub plan will be prepared which will detail the management and on-going protection of the remaining Earp's gum within the site.	Preconstruction	AGL	Compliance Open	Long term management of Earp's gums include in Biodiversity Strategy, Ecobiological May 2012  Management of Earp's gums during construction detailed in FFMSPP Appendix B Table 8-10.  Habitat Management Sub Plan to be developed by AGL
198	A vegetation rehabilitation management sub plan will be prepared which will detail the management and on-going protection of the remaining Earp's gum within PPA.	Preconstruction	CBI	Compliance Open	Management of Earp's gums during construction detailed in FFMSPP Appendix B Table 8-10
199	Additional targeted surveys will be undertaken in the appropriate season for <i>Asperula asthenes</i> , <i>Galium australe</i> , <i>Lindernia alsinoides</i> , <i>Persicaria elatior</i> , <i>Zannichellia palustris</i> and <i>Maundia triglochinos</i> in areas of suitable habitat within the final development footprint prior to construction. Should any species be likely to be impacted by the proposal then such species will be adequately compensated for in the form of offsets.	Preconstruction	AGL	Compliance Closed	Survey completed 25 Nov 2011. Offsets include in Offset Strategy, Ecobiological May 2012

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
200	A habitat management plan will be prepared (in consultation with the OEH and DSEWPaC) and implemented for the offsets and the development footprint.	Preconstruction	AGL	NA Open	Habitat Management Plan to be developed and implemented by AGL
201	In order to protect Earp's gum, individual trees will be retained within the APZ.	Preconstruction	CBI	Compliance Closed	FFMSP - Table 8-1, Table 8-12, Site inspections. Trees within APZ area marked using parawebbing
202	There will be no direct disturbance to the Freshwater Wetlands Endangered Ecological Community (EEC), Riverflat Eucalypt Forest EEC and Swamp Sclerophyll Forest that are located along Old Punt Road (due to pipeline realignment and choice of construction technique).	Preconstruction - Stage 2	AGL	NA Open	Final design completed. To be added to Management Sub Plans. Check during pipeline works stage 2
203	The proposed width of the gas pipeline access corridor will be reduced to 30 m which will reduce clearing in the Redgum-Apple-Banksia community (that contains Eucalyptus tereticornis) from 0.85 ha to 0.69 ha.	Preconstruction	AGL CBI	Compliance Closed	FFMSP - Table 8-2. Site Inspections Project areas marked with flagging tape and parawebbing. Gas pipeline access corridor 30m width
204	Any New Holland Mouse trapped will be translocated into areas safe away from development. This will be done in consultation with DSEWPaC.	Preconstruction	AGL	Compliance Closed	FFMSP - Table 8-11 New Holland Mouse Protection Protocol Five transects completed with no New Holland Mice captured. Refer to Ecobiological report "Vegetation Clearing for Newcastle Gas Storage Facility" (November 2012)



Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b>7.5 Bush Fire</b>					
<b>7.5.2 Emergency Planning</b>					
205	An emergency response plan will detail required actions at construction sites for approaching bush fire danger. This emergency response plan will be consistent with the RFS Guidelines for the Preparedness of Emergency/Evacuation Plan and be in compliance with AS 3745-2002 'Emergency control organisation and procedures for buildings, structures and workplaces'. The plan will be prepared prior to construction.	Preconstruction	CBI	Compliance Closed - CBI	CBI's Bushfire Management Sub Plan includes reference to the AS
206	A CEMP will include measures for working in a bush fire-prone area. AGL will apply its standard procedures during construction e.g., hot work permits.	Preconstruction	CBI	Compliance Closed - CBI	BFMSP – Appendix B (Mitigation Measures) Table 12-13 in CEMP also has mitigation measures included
<b>7.5.3 Access and Egress</b>					
207	The design of the access road and utility corridor will be sufficiently wide to allow attending emergency vehicles and evacuating vehicles to pass unimpeded in case of fire. It will be accessible in all weather conditions and will be designed to have a minimum load rating to accommodate fire-fighting units. The gas pipeline access corridor will serve as an alternative access/egress road. It will be designed for one way traffic and for light vehicles only.	Preconstruction	AGL	Compliance Closed	Width of roads 30m to allow space for vehicles to pass. Main access road has been designed for general road traffic incl road tankers and emergency vehicles. Width of road caters for two way traffic. Gas access track designed for one way traffic and light vehicles as an alternative access/egress road.  TMSP – Table 9-1 for requirement during construction phase

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
208	The access road and emergency access road will include adequate outer radius-turning circles at the entry of the gas plant site and vertical clearance will be maintained above the access road.	Preconstruction	AGL	Compliance Open	Referenced in ERP Table 1-3 Statement of Commitments Included in TMSP - Table 9-1
<b>7.5.4 Project Design</b>					
209	The gas plant is classified as a Class 10 building under the BCA. The construction of buildings and infrastructure will be in accordance with AS 3959-2009 'Construction of Buildings in Bush Fire Prone Areas'.	Preconstruction	AGL	IO Closed	Pre-construction technical design CBI has stated all buildings are designed for BAL-29 as per AS 3959. IO - This should change as the PDC is within 25 m of the APZ and needs to be designed for BAL-40
<b>7.5.5 Water and Services</b>					
210	The bush fire fighting water supply for the gas plant site will exceed the minimum volume requirement of 20,000 L (0.02 ML). The firewater tank will be able to direct water for fire suppression and cooling within the plant for a minimum of two hours. Fixed pumping systems, one electric and one diesel-engine driven, will be used. The water tank will be close to the southern boundary of the site and unimpeded access for emergency vehicles will be provided. Connections to the water tank will be provided for fire fighting teams.	Preconstruction Operations	AGL	Compliance Closed	Pre-construction technical design NFPA 59A requires 2 hour fire water storage at maximum demand which exceeds this requirement. Note that the split to 2 x 50% tanks is still larger than the 20,000 l requested by bush fire fighting.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b>7.5.6 Landscape and Vegetation Management</b>					
211	A bushfire management plan will be prepared for the PPA. The plan will address the management and maintenance of bush fire mitigation infrastructure. Clearance within the easements will be maintained to ensure fuel loads are kept to a minimum.	Preconstruction	CBI	Compliance Open	BFMSP – Appendix B Table 8-1 Table 12-13 (Risk Register) in CEMP has mitigation measures included
<b>7.5.8 Modifications to Management and Mitigation Measures for Bush Fire</b>					
212	APZs will be sized to provide a Bushfire Attack Level (BAL) of 29 kW/m2.	Preconstruction	AGL	Compliance Closed	APZ based on design – PPA cleared as per design
213	An emergency plan will be prepared in accordance with clause 174ZC of the Occupational Health and Safety Regulations 2001 (NSW) and the DP&I guidance note HIPAP 1, Emergency Planning.	Preconstruction	CBI	NC-2 Open	NC-2 CBI's PRP does not refer to either document therefore it is unclear if plan is consistent with these guidelines and procedures. Consider including discussion in PIRMP or PRP on the compliance/non-compliance with these documents.  AGL will be responsible for developing the ERP for the operations phase of the Project.
214	A fire safety study will be prepared and submitted to FRNSW for review and comment. The fire safety study will be compiled in accordance with NSW Department of Planning and Infrastructure guidance note HIPAP 2, Fire Safety Study Guidelines.	Preconstruction	CBI	Compliance Open	CBI -FSS August 2012 based on final design  Letter dated 19-June requesting for approval of a staged approach to the HAZOP Study, Fire Safety Study and Final Hazard Analysis Process  6-Aug-12: Approval received from Director General for the proposed staged submission approach.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
					<p>28-Nov-12: Submission of Phase 1 Fire Safety Study and Hazop Report to DP&amp;I</p> <p>10-Dec-12: Submission of Phase 1 Final Hazard Analysis to DP&amp;I</p> <p>19-Dec-12: Phase 1 Fire Safety Study approved by Rural Fire Service</p> <p>17-Jan-13: Phase 1 submission approved by DP&amp;I</p> <p>5-Feb-13: Phase 1 Fire Safety Study approval by Fire &amp; Rescue NSW</p> <p>15-Feb-13: Meeting held with Fire &amp; Rescue NSW to discuss their comments</p>
215	The proposed emergency traffic arrangements will be reviewed and assessed to ensure compliance with the stated Emergency Vehicle Access Policy No. 4.	Preconstruction	CBI	NC-2 Open	NC-2 - consider including requirement into CBI's PRIMP or PRP
216	With regards to the LNG Tank, there are two sources to determine the APZ. The European LNG Code, EN 1473:2007 recommends a radiant heat less than 15kW/m2, which requires an APZ of 43m. The Department of Planning recommends a radiant heat less than 23kW/m2, which requires an APZ of 31m. The current site layout has a APZ of 46m (minimum), including the slashing zones, and therefore satisfies both requirements.	Preconstruction	AGL	Compliance Closed	Note

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b>7.6 Aboriginal Cultural Heritage</b>					
218	Maintain an Aboriginal cultural heritage site register.	Preconstruction Construction	CBI	Compliance Open	CHMSP refers to requirement in SOC Table 1-3.  No register currently kept on site. Inspection log maintained. RFS includes table of artefact attributes RFS compiling register for submission to AIHMS after earthworks completed
219	Record all Aboriginal cultural heritage sites within proximity of the Project area in the CEMP and OEMP.	Preconstruction Construction	AGL	Compliance Closed	CHMSP - Section 2 and Figure 2-1
220	Train all employees and contractors as part of the induction process in the procedures to be followed in the event that Aboriginal cultural heritage sites, objects and/or remains are unearthed.	Preconstruction Construction	CBI	Compliance Open	CHMSP - Section 3-1 and Appendix A  Induction includes overview of process if heritage item found.  Specifics on heritage works discussed further in workshop 21 August 2012 with clearing contractors. Toolbox talks held.
221	Prepare a Cultural Heritage Management Plan (CHMP) in consultation with Aboriginal Stakeholders prior to construction for incorporation into the CEMP. The CHMP will address:  a) The impact mitigation and management requirements for Aboriginal and historic heritage, b) Details of any additional archaeological investigations to be undertaken and any associated licences or approvals required,	Preconstruction	AGL	Compliance Closed	CHMSP  a) Section 2-3, Section 4 b) Section 5-1 and Appendix C for legislative context c) Appendix A d) Appendix A e) Appendix A

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
	<p>c) Procedures to be implemented if previously unidentified Aboriginal or historic objects are discovered during construction,</p> <p>d) Procedures if human remains found,</p> <p>e) An education program for construction personnel on their obligations for Aboriginal cultural materials and historic items.</p>				
222	<p>Conduct a field survey of the PPA when the current dense vegetation layer is removed. This will be undertaken by a qualified archaeologist and representatives from the Worimi Local Aboriginal Land Council, Mu-Roo-Ma Inc, Nu-Run-Gee Pty Ltd and the GGAC.</p>	<p>Preconstruction Clearing</p>	AGL	<p>Compliance Closed</p>	<p>CHMSP - Section 5-3</p> <p>Three inspections of the site were completed by the groups.</p> <p>30 August 2012 - understory vegetation removed</p> <p>7 September 2012 - all material cleared</p> <p>24 September 2012 - topsoil removed.</p>
223	<p>Regular monitoring of implementation of Aboriginal cultural heritage procedures, including the CHMP, and relevant legislation will be conducted to ensure that they are followed by staff and contractors.</p>	Construction	<p>CBI AGL</p>	<p>Compliance Open</p>	<p>CHMSP Table 5-1 indicates weekly inspections and internal audits completed.</p> <p>Daily and weekly checks for heritage issues conducted by CBI environment staff. Audit pending</p>

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b>7.7 Non-Aboriginal Cultural Heritage</b>					
224	The CHMP will include procedures in the event that significant non-Aboriginal cultural heritage material is unearthed during construction of the Project.	Preconstruction	AGL CBI	Compliance Closed	CHMSP - Appendix A All subsoil works completed on PPA - no non-Aboriginal cultural heritage material found.
225	All staff and contractors will be inducted and trained in cultural heritage procedures and the CHMP so they are aware of their obligations under the NSW Heritage Act.	Preconstruction Construction	CBI	Compliance Open	CHMSP - Section 3-2 Induction included overview of process if heritage item found. Specific training on heritage find identification delivered to clearing contractors at workshop 21 August 2012. Toolbox held on topic when relevant to area or works.
<b>7.8 Socio-Economic Environment</b>					
226	Employ a strategy that focuses on equipment suppliers, trades and services, within the Port Stephens and Newcastle LGAs, boosting the local economy.	All	CBI	Compliance Open	Subcontractors have been sourced from Newcastle are including Wards Engineering, Newcastle Earthworks, Antquip.
227	Meet the construction and operations noise goals of the Project to minimise disturbance to sensitive receptors.	All	CBI	Compliance Open	NVMSP - Section 2.0 NVMSP monitoring programme to confirm noise goals are being met has been completed and is ongoing.
228	Use local labour where appropriately qualified people are available to minimise the influx of workers to the area during construction and reduce the risk of subsequent potential impacts on rental prices.	All	CBI	Compliance Open	Bulk earthworks and clearing completed by subcontractors sourced from local area

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
229	Outline accommodation options for workers during inductions and encouraged, where practicable, to share houses during construction.	All	CBI	Compliance Open	Bulk earthworks and clearing completed by subcontractors sourced from local area
230	Consult with local accommodation providers and tourism industry representatives on an on-going basis to manage potential impacts on short-term accommodation, particularly during peak construction periods.	All	CBI	NA Open	Not checked
<b>7.8.3 Property</b>					
231	Access to properties will be maintained during pipeline construction works and pipeline trenches will be progressively reinstated to minimise impacts on the use of land.	Preconstruction Construction	CBI	NA Open	27.02.12: CBI only responsible where their work crosses TAC private access road and Old Punt Rd associated with stormwater pipe. Access to properties along Old Punt Rd maintained.
232	Minimise the requirement for roadworks along the section of Old Punt Road passing through the Tomago industrial estate between Kennington Drive and Old Punt Road and Laverick Avenue and Tomago Road intersections.	Preconstruction - Stage 2 Construction	AGL	NA Open	Stage 2 of Project
<b>7.8.4 Employment, Training and Local Business</b>					
233	Engage local businesses where possible to service the Project both during construction and operations. Detailed advanced notices of goods and services required by the Project will be issued to assist local businesses meet the needs of the Project.	All	CBI AGL	Compliance Open	Bulk earthworks and clearing completed by subcontractors sourced from local area Check if advanced notice issued - not checked this audit.
<b>7.8.5 Social Infrastructure</b>					



Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
234	Community consultation will be on-going during the life of the Project.	All	CBI AGL	Compliance Open	Procedure provided in the Community Engagement Plan (Document no: NGSF-AGL-NAS-PM-PLN-0002) - Section 4  First CCC meeting 4 July 2012. Last meeting held 8 May 2013. Minutes are available on the Project website.
235	Notify the local community by means of public notice publications and advertisements on the progress of the Project and the scheduling of works.	All	CBI AGL	Compliance Open	Provided in the Community Engagement Plan (Document no: NGSF-AGL-NAS-PM-PLN-0002)  Project signboards have been erected on site at Hexham and Tomago with contact details  Contact details advertised on project website - details also included in Newspaper advertisement published in: <ul style="list-style-type: none"> <li>• Port Stephens Examiner</li> <li>• Newcastle Herald</li> </ul> Refer to Project Website for copies.  Notices indicate expected operational date (mid 2015) and that AGL will continue to inform the community throughout all stages of the project
236	Preventative occupational health and safety measures and awareness programs will be implemented.	Construction	CBI AGL	Compliance Open	Toolbox talks held weekly (records sighted) which discussed any topical issues  Pre-starts held daily highlighting hazards and discussing works to be completed that day

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
237	All staff, contractors and site visitors will undergo site inductions, be conversant with the construction safety management plan and the emergency management plan, as well as occupational health and safety requirements as specified by specialist contractors, professional bodies and unions.	Construction	CBI	Compliance Open	CEMP -Section 3.2 Training and Awareness PIRMP - Section 3.2 Training and Awareness Induction records maintained - all staff required to undergo inductions prior to commencing works on site Review of induction content completed August 2012.
238	Working relationships will be developed with local area emergency services providers, including Raymond Terrace Police, Ambulance and Fire services, and regional hospitals to advise on risks relating to on-site work and prepare for emergencies. Assistance will be provided with emergency training. This process will begin prior to construction.	Construction	CBI AGL	Compliance Open	BFMSP - Section 3.1 for Fire Services stakeholder consultation once plan completed. Visit to Rural Fire Service command centre in Raymond Terrace completed with discussion of plan completed. RFS was invited to site to complete toolbox for bushfire management however RFS has not attended site to date. Police and ambulance are aware of site however, specific relationships are yet to be developed.
239	A zero-tolerance on-site drug and alcohol policy will be enforced.	Construction	CBI	Compliance Open	Random breath testing completed during pre-starts and results recorded in register. Drug testing is not currently completed as type of testing appropriate to site to be confirmed i.e. blood, urine, saliva swab etc.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
240	As the Project will be classified as a Major Hazard Facility, the Project will comply with the requirements for hazard and risk management under the National Standard for the Control of Major Hazard Facilities administered by NSW WorkCover. The National Standard for the Control of Major Hazard Facilities requires that relevant community and employee groups are consulted.	Construction	CBI AGL	Compliance Open	MCoA B16 states that a Final Hazard Analysis of the project, consistent with Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011) shall be developed. The FHA shall report on the implementations of the recommendations of the Preliminary Hazard Analysis.
241	Prior to operation of the Project, a safety management system will be implemented, which will include an emergency response plan.	Operations	AGL	Compliance Closed - CBI	PRIMP has been developed Safety management system and procedures has been developed and implemented
242	Project design will provide sufficient open space for emergency vehicles and equipment including fire fighting and rescue.	Preconstruction	CBI	Compliance Open	Check of final design not completed as part of this report Refer SoC 207 and 208 TMSP - Table 9-2
243	Two suitably qualified first aid officers (with access to basic medical facilities) will be on duty at all times during construction activities associated with the gas plant, the receiving station in Hexham and the pipeline corridor, and at all times at the gas plant during operations.	Construction	CBI AGL	Compliance Open	CBI advised that they have more than two qualified first aiders in addition to a full time nurse (commencing 22-Jul-13)

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b>7.8.6 Monitoring</b>					
244	The number of jobs created by the Project for local residents during the construction period to assist in quantifying the positive impacts of the Project on workforce participation.	Construction	CBI	NA Open	Monitoring records not checked
245	Stakeholder feedback via the implementation of a community information line to ensure that issues associated with the Project are appropriately addressed.	Construction	AGL	Compliance Open	Information line advertised on website Monitoring records not checked
246	The local community's response and awareness of the Project as a result of the community consultation program.	Construction	AGL	NA Open	Monitoring records not checked
247	Long-term benefits to the community achieved by AGL's partnering with stakeholders.	Construction	AGL	NA Open	Monitoring records not checked
<b>7.9 Visual Amenity</b>					
248	Colour selection of office buildings will be considerate of the surrounding environment.	All	CBI	NA Open	Preconstruction - design Not checked
249	Existing vegetation will be retained where possible to act as a visual screen.	All	AGL	Compliance Open	Only required area for PPA, access track and pipeline cleared. All other vegetation in Project area retained. Project is not visible from surrounding roads, residences or businesses. Pipeline route and Hexham Receiving Station to be checked

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
250	Additional screen planting will be undertaken on the front and side boundaries of the Hexham receiving station site. Planting will need to allow for the final site layout, location of underground infrastructure and any security surveillance requirements.	All - Stage 2	Other	NA Open	Stage 2 of Project
251	On completion of the pipeline construction, disturbed areas of land will be rehabilitated and returned to previous use.	All - Stage 2	Other	NA Open	Stage 2
<b>7.10 Traffic</b>					
252	<p>A construction traffic management plan will be prepared for the Project to minimise any impacts on the road network. Measures in the construction traffic management plan will include:</p> <p>a) Transportation of equipment and machinery likely to cause delays to traffic flows will be timed to avoid peak traffic flows, where practicable;</p> <p>b) Ensure heavy vehicles meet the Australian Road Rules and RTA standards so that road safety is not compromised;</p> <p>c) Transport oversized equipment and machinery in accordance with the RTA guidelines for oversized movements;</p> <p>d) Implement appropriate signage to warn road users of the presence of construction vehicles as well as changes to the normal traffic conditions.</p>	Preconstruction	CBI	Compliance Closed	Traffic Management Sub Plan (TMSP) a) Table 9-1 b) Section 2.7 and Table 9-1 c) Table 9-1 d) Table 9-1

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
253	Notify the local community by means of public notice publications and advertisements on the progress of the Project and the scheduling of works so as to inform the local community of any additional vehicles added onto the local road network.	All	CBI AGL	Compliance Open	TMSP - Table 9-3 Notification Section 3 AGL needs to sign off any public notices regarding the project.
254	These measures (relating to traffic) will be developed and implemented in consultation with the RTA, Port Stephens Council and Newcastle City Council.	All	CBI	Compliance Open	TMSP - Section 3.1
255	It is anticipated that some Project components will be transported as over-dimensional loads during construction. Required permits will be obtained.	All	CBI	Compliance Open	TMSP - Table 9-1
256	The pipeline construction may necessitate the partial closure of traffic lanes along Old Punt Road during pipeline installation. Temporary decking will be implemented if required during the trenching works to allow vehicles to traverse the open trench. The construction traffic management plan will outline management measures to protect pedestrian, cyclist and vehicular movements.	All - Stage 2	Other	NA Open	Stage 2 CEMP - TMSP

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
257	<p>Operation traffic management controls will be implemented to ensure staff, contractor and public safety relating to vehicle transport. Safe driver conduct policies and standards will be applicable to all AGL staff and contractors. Other controls include:</p> <ul style="list-style-type: none"> <li>• Implement driver and pedestrian safety awareness programs,</li> <li>• Review speed limits across the Project sites for all vehicles,</li> <li>• Conduct a random alcohol and drug testing program.</li> </ul>	Operations	AGL	<p>NA</p> <p>Open</p>	OEMP to be developed for operations phase
258	A detailed construction traffic management plan will be prepared and implemented	All	CBI	<p>Compliance</p> <p>Open</p>	<p>TMSP prepared.</p> <p>Implementation to be checked (on-going)</p>
259	A number of temporary construction compounds will be required along the route of the pipeline for its construction. Safe traffic movement in and out of these sites will be described in the construction traffic management plan.	All - Stage 2	Other	<p>NA</p> <p>Open</p>	Stage 2 TMSP
260	Temporary impacts to road infrastructure by the Project during the construction phase will be rehabilitated and reinstated by AGL.	All - Stage 2	AGL	<p>NA</p> <p>Open</p>	Stage 2 TMSP
261	AGL will carry out HDD beneath the Old Punt Road and Tomago Road intersection to avoid disruption to traffic during the Project construction phase.	All - Stage 2	Other	<p>NA</p> <p>Open</p>	Stage 2 TMSP

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
262	AGL shall arrange for a public liability policy to cover the RTA and the relevant Council for public liability in relation to this contract/works for an amount of \$20 million.	All	AGL	NA Open	Not checked
263	Use of the existing infrastructure of the Hexham receiving station where possible, noting that there is existing parking and access to the site.	All - Stage 2	CBI	NA Open	Stage 2
<b>7.11 Noise and Vibration</b>					
<b>7.11.1 Noise</b>					
264	A noise and vibration management plan will be prepared as part of the CEMP and OEMP to ensure noise levels are adequately controlled and any impacts managed. The traffic noise management plan will be prepared within the construction traffic management plan. It will be prepared in line with practices outlined in DECCW Interim Construction Noise Guideline 2009 and DECCW Environmental Criteria for Road Traffic Noise 1999 and in consultation with the Port Stephens Council, Newcastle City Council and OEH. The CEMP will be implemented by AGL and the construction contractors.	All	CBI	Compliance Open	Noise and Vibration Management Sub plan (NVMS) TMSP - Table 9-4. Consultation with PSC, NCC and EPA to be checked with AGL



Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
265	Noise emissions will be confirmed for equipment and infrastructure (including low frequency noise) during detailed design when final specifications are known. The potential for high-flow gas flaring at the gas plant site will be reviewed and noise assessment may be required to determine impacts of noise associated with high-flow gas flaring.	All	AGL	NA Open	Technical design spec To be completed
266	Construction and operation activities will be undertaken with a focus on noise control at source, noise attenuation and in consultation with potentially affected receptors to minimise the risk of noise exceeding noise criteria and disturbing sensitive receptors. The following measures will be implemented (where practical) to manage impacts of noise and ensure Project goals are met:	All	CBI	Refer below	NVMSP completed with mitigation and management measures included in Appendix B. EA Noise component indicate construction noise will not exceed criteria at the sensitive receptors.
267	Stage Project activities (and reduce simultaneous noise emitting practices) to reduce peak noise levels.	All	CBI	Compliance Open	NVMSP - Appendix B Table 8-2 Hours of Construction Construction activities and indicative timings include in Table 2-3 Predicted noise levels for each activity included in Table 2-6. Clearing and bulk earthworks identified as noisiest activity - predicted levels below criteria at receptors.
268	Incorporate attenuation (such as mufflers) into the design of Project equipment and infrastructure.	All	CBI	Compliance Open	NVMSP - Table 1-5 and Table 8-3

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
269	Orient equipment away from receptors.	All	CBI	Compliance Open	NVMSP - Appendix B Table 8-3 Operation of Vehicles, Plant and Machinery  Predicted noise levels from current site works not audible at nearest receptor (Botanical Gardens).
270	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. This will be the case for horizontal directional drilling works, which will occur 24 hours a day, 7 days per week.	All	CBI	Compliance Open	NVMSP - Appendix B Table 8-2 Hours of Construction  Hours of construction within specified hours
271	Schedule high noise generating activities for less sensitive times of the day (including periodic respite breaks from noise).	All	CBI	Compliance Open	NVMSP - Appendix B Table 8-2 Hours of Construction  No high noise generating activities during period of reporting
272	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.	All	CBI	Compliance Open	NVMSP - Section 3.1 and Table 8-1 General Construction  No works within 500m of sensitive receptors during period of reporting with exception of botanical gardens.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
273	Ensure vehicles and equipment are in good working order and have effective noise reduction features.	All	CBI	Compliance Open	NVMSP - Appendix B Table 8-3 Operation of Vehicles, Plant and Machinery  Vehicles checked daily - records kept.  CBI environment staff note levels during daily and weekly site inspections
274	Ensure that best practices for noise attenuation (such as exhaust silencers, mufflers and enclosures) and noise minimisation are incorporated into the design of the gas plant and Hexham receiving station.	All	CBI	Open	Technical design spec no checked as part of this report
275	Consult potential noise receptors about the nature of operations noise emissions and avoidance and mitigation practices to be adopted. Feedback and complaints will be recorded and addressed where practical.	Operations	AGL	NA Open	OEMP to be developed for operations phase
276	Monitor noise levels during operations to ensure localised noise creep (increase in local ambient noise) is not occurring due to the Project.	Operations	AGL	NA Open	OEMP to be developed for operations phase
<b>7.11.2 Vibration</b>					
277	Construction activities will be implemented with a focus on vibration control at source and consultation with potentially affected receptors.	Construction	CBI	Compliance Open	NVMSP - Table 8-3 Operation of Vehicles, Plant and Machinery  Vibratory roller and vibro compaction completed during reporting period - site inspections indicate impacts localised

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
278	The following measures will be implemented (where practical) to manage impacts of construction vibration and ensure Project goals are met:	Construction	CBI	Refer below	Refer below
279	Use alternative, lower-impact equipment or methods where practicable.	Construction	CBI	Compliance Open	NVMSP - Appendix B
280	Operate high vibration equipment as far away from receptors as possible. Rock-breakers will not be used within 20 m of residences.	Construction	CBI	Compliance Open	NVMSP - Table 8-3 Operation of Vehicles, Plant and Machinery. Check of vibration at boundary indicates no off site impacts.
281	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).	Construction	CBI	Compliance Open	NVMSP - Appendix B Vibratory roller and vibro compaction completed during reporting period - site inspections indicate impacts localised. No sensitive receptors impacted.
282	Keep equipment well maintained.	Construction	CBI	Compliance Open	NVMSP - Appendix B Table 8-3 Operation of Vehicles, Plant and Machinery. Vehicle checklist completed daily prestart. Records maintained.
283	Reduce instances of simultaneous vibration activities.	Construction	CBI	Compliance Open	NVMSP - Appendix B Table 8-3 Operation of Vehicles, Plant and Machinery Vibratory roller and vibro compaction completed during reporting period - works in different areas with site inspections indicating no cumulative impact.

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
284	Isolate high vibration equipment on resilient mounds.	Construction	CBI	Compliance Open	NVMSP - Appendix B Table 8-3 Operation of Vehicles, Plant and Machinery
285	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.	Construction	CBI	Compliance Open	NVMSP - Appendix B Table 8-1 General No vibratory works completed within 500m of sensitive receptors during reporting period
<b>7.11.3 Monitoring</b>					
286	Noise emissions during construction and operations to ensure equipment is meeting noise certification and criteria requirements and detect any faulty or damaged equipment.	All	CBI	Compliance Open	NVMSP - Section 5.0 Monitoring as per the NVMSP implemented.
287	Vibration levels during construction to ensure vibration criteria are being met.	All	CBI	Compliance Open	NVMSP - Section 5.0 Daily checks for vibration at site boundary completed.
288	Responding to community complaints in line with EPA license conditions.	All	CBI AGL	Compliance Open	NVMSP - Section 5.0 No complaints received during the reporting period - refer complaints register
<b>7.12 Air Quality</b>					
289	Minimise vegetation clearance to reduce the areas of exposed soil.	Construction Operations	AGL	Compliance Open	Pre-Con - Site Layout - Detailed design AQMS - Appendix B Table 8-1 General

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
290	Water construction sites during dry windy conditions as required, including cleared areas, soil stockpiles and unsealed roads.	Construction Operations	CBI	Compliance Open	AQMSP - Appendix B Table 8-1 General Site inspections indicate water carts used - refer ER site inspection reports.
291	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.	Construction Operations	CBI	Compliance Open	AQMSP - Appendix B Table 8-1 General and Table 8-4 Extreme Weather Conditions
292	Prevent dirt being carried onto the TAC Northern Access Road or Old Punt Road from the access road where it could form dust.	Construction Operations	CBI	Compliance Open	AQMSP - Appendix B Table 8-1 General Rumble grids installed at site exit point to assist with preventing tracking of material onto TAC Northern Access Road. Sweeper used to clear any tracked material - refer site inspection reports.
293	Load trucks transporting any potential dust generating material off site to below the height of the side and tail board and cover the load.	Construction Operations	CBI	IO Open	AQMSP - Appendix B Table 8-1 General IO - consider adding requirement to transport material offsite below the height of the tail and side board. Loads noted to be covered and below height of side and tail board when leaving site during site inspections.
294	Enforce vehicle speed limits on unsealed roads to reduce dust generation.	Construction Operations	CBI	Compliance Open	AQMSP - Appendix B Table 8-1 General Site speed limit 20km/h.
295	Re-vegetate as soon as practical.	Construction Operations	AGL	Compliance Open	AQMSP - Appendix B Table 8-5 Re-vegetation of Cleared Areas

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
					Rehabilitation and revegetation yet to commence during period of reporting
296	Maintain trucks and construction equipment in accordance with the manufacturers' specifications and comply with all relevant regulations.	Construction Operations	CBI	IO Open	IO - consider adding to AQMSP - Appendix B or remove from Table 1-3 Statement of Commitments if not applicable  NVMS - Appendix B Table 8-3 Operation of Vehicles, Plant and Machinery
297	Avoid unnecessary idling of trucks, plant and engines.	Construction Operations	CBI	Compliance Open	AQMSP - Appendix B Table 8-2 Vehicle, Plant and Equipment Management and Maintenance
298	Plan material deliveries to avoid congestion and excessive truck queuing and truck idling.	Construction Operations	CBI	Compliance Open	AQMSP - Appendix B Table 8-1 General
299	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.	Construction Operations	CBI	IO Open	IO - consider adding to AQMSP - Appendix B Table 8-2 Vehicle, Plant and Equipment Management and Maintenance
300	Project equipment will be designed to enable monitoring of operating performance to ensure the equipment is operating according to manufacturer's specifications.	Construction Operations	CBI	Compliance Open	Machinery noise spot checked and compared to design specifications.
301	A monitoring program will be established to ensure regular (or continuous) monitoring of air emissions.	Operations	AGL	NA Open	OEMP to be developed for operations phase

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
302	The access road will be sealed during operations to prevent the generation of dust by vehicles using the road and to dirt being carried onto the TAC Northern Access Road or Old Punt Road where it could form dust.	Operations	AGL	NA Open	Pre-con/Technical Design Spec
303	Monitoring of the Project emissions will be in accordance with current AGL practice. Emissions of pollutants are reported annually in the National Pollution Inventory (NPI).	Operations	AGL	NA Open	OEMP to be developed for operations phase
304	Chemicals and analytes, including glycol, used across the Project for dehydration, rehydration and refrigeration will be monitored and modelled.	Operations	AGL	NA Open	OEMP to be developed for operations phase
305	Liaison will continue with OEHL in relation to the licensing requirements for the Project under the POEO Act and the proposed draft conditions for the environmental protection licence.	Operations	AGL	NA Open	Operations
306	There will not be any gas venting during shutdown other than in an emergency.	Construction Operations	AGL	NA Open	OEMP to be developed for operations phase/Technical Design Spec
<b>7.13 Greenhouse Gas Emissions</b>					
307	Design the site layout to reduce the extent of vegetation clearing required.	All	AGL	Compliance Closed - CBI	Clearing as per design. Clearing now completed - stage 1
308	Incorporate initiatives focusing on energy efficiency in the Project design. This may include high-efficiency motors, variable speed drives and high-efficiency lighting (e.g., motion sensors or passive lighting).	All	AGL (WP)	Open	Design to be checked.



Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
309	Implement the AGL Climate Change Policy which is incorporated through the Health, Safety and Environment Management System including greenhouse abatement initiatives will be adopted for the Project.	Operations	AGL	NA Open	OEMP to be developed for operations phase
310	Establish measureable greenhouse gas emission reduction targets.	Operations	AGL	NA Open	OEMP to be developed for operations phase
311	Maintain vehicles appropriately to maximise their fuel efficiency.	All	CBI	IO Open	IO - consider adding to AQMSP Appendix B Table 8-2 Vehicle, Plant and Equipment Management and Maintenance
312	In accordance with the Commonwealth National Greenhouse and Energy Reporting Act 2007, AGL will be required to report on greenhouse gas emissions, energy production and energy consumption. Greenhouse gas emissions will be monitored and reviewed on an annual basis.	All	CBI AGL	IO Open	IO - consider adding requirement to track fuel usage and electricity consumption of construction phase to AQMSP.  Fuel usage maintained in excel spreadsheet - no electricity from grid (generator only).  OEMP to be developed for operations phase
<b>7.14 Hazard and Risk</b>					
<b>7.14.1 Risk Management</b>					
313	Conduct a review of the hazard and risk assessment once detailed design and hazard and operability studies (HAZOPs) have been completed for the Project, this will ensure that the assumptions made in this hazard and risk assessment remain valid though conservative.	All	AGL	Compliance Open	Letter to DP&I dated 19 June 2012 requesting approval to stage Fire Safety Study (FSS), Hazard and Operability Study (HAZOP), Final Hazard Analysis (FHA).  CBI - HAZOP, FSS and FHA August 2012 based on final design

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
					Letter from DP&I dated 6 August 2012 approving staged approach with requirement the HAZOP for the second stage should cover the interaction with already installed equipment.
314	Undertake an audit of the Safety (Health and Environment) Management System within twelve months of commissioning the gas plant. This audit will focus on the management of potential major hazards associated with the development and based on the DP&I Hazard Audit Guidelines.	Operations	AGL	NA Open	12 months after operations commenced
315	Develop an emergency response plan that will coordinate procedures with the Tomago Aluminium Smelter, other adjacent industrial facilities and any local emergency planning groups, fire brigades, state and local police and appropriate government agencies. This plan will include: <ul style="list-style-type: none"> <li>a) Contacts with state and local emergency response agencies;</li> <li>b) Scalable procedures for the prompt notification of appropriate local official and emergency response agencies, based on the level and severity of potential incidents;</li> <li>c) Procedures for notifying businesses, residents and recreational users within areas of potential hazard;</li> <li>d) Evacuation routes/methods for residents, business and members of the public in the vicinity of the Project. Evacuation routes will include alternatives to the main access road;</li> </ul>	All	CBI	IO Open	PRIMP - Rev 0 <ul style="list-style-type: none"> <li>a) Section 3.0, Section 6.1.2 (Table 6-2)</li> <li>b) Section 2.1</li> <li>c) Section 6.1.2</li> <li>d) Not applicable to this stage of works - operations</li> <li>e) No permanent warning devices installed - to be installed during construction</li> <li>f) Section 1.8. IO - consider including identification of designated emergency controller/coordinator in case of emergency into responsibilities section</li> <li>g) Not applicable to this stage of works - operations</li> </ul>

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
	e) The locations of permanent sirens and other warning devices; f) Appointment of an emergency coordinator(s) to be available on site at all times; g) Plans for initial and continued training of plant operators and local responders, along with provisions for periodic emergency response drills by emergency personnel, emergency response agencies and federal, state and local officials.				
316	Undertake a security assessment to ensure arrangements are acceptable for the gas plant site as per the current requirements for critical infrastructure in NSW and under the NSW Regulations for Major Hazards Facilities.	All	AGL	Compliance Open	Design and operations phase of project. Preliminary Hazard Analysis completed as part of EA. Final Hazard Analysis to be completed
317	Design the gas plant to ensure that any spills will drain into sumps, away from other plant items and infrastructure. Additional design features will also be incorporated to minimise the risk of cold metal brittle fracture and verify the adequacy of the design features during the HAZOP and safety integrity level (SIL) studies.	All	AGL	NA Open	Design to be confirmed

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
318	Install an automatic shutdown system for use in the event of a leak.	All	AGL	NA Open	Check of final design to be completed to confirm
319	Evaluate additional mitigation of vapour generated in the impoundment system, such as the installation of insulating concrete inside the LNG impoundment trenches and sump.	All	AGL	NA Open	Check of final design to be completed to confirm
320	Install an air quality monitoring or other early warning system inside the compressor building.	All	AGL	NA Open	Check of final design to be completed to confirm
321	Determine the requirement for lightning protection for the top of the tank during detailed design.	All	AGL	NA Open	Check of final design to be completed to confirm
322	Install an overfill and overpressure protection system for tanker loading.	All	AGL	NA Open	Check of final design to be completed to confirm
323	Consult with air transport stakeholders to determine any requirements for restricting airspace above the gas plant and aircraft warning lights or other warning devices.	All	AGL	NA Open	Check of final design to be completed to confirm
324	Incorporate appropriate allowances in the Project design to ensure that multiple pipelines located in the same easement are separated by acceptable distances to ensure that radiant heat produced during an incident is not transferred to a neighbouring pipe.	All	AGL	NA Open	Check of final design to be completed to confirm

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
<b>7.14.2 Safe Engineering Design</b>					
325	The storage facility will be designed according to Australian and/or international standards to meet the required earthquake characteristics of the site.	Preconstruction	AGL	NA Open	Check of final design to be completed to confirm
326	AGL will continue to consult with all relevant agencies through the detailed design and Project operation phases.	Preconstruction	AGL	NA Open	Check of final design to be completed to confirm
327	Maximise separation distances to separate the most credible (though rare) leaks from ignition sources, physically isolate any fire, prevent its spread and minimise the risk to people and property.	Preconstruction	AGL	NA Open	Check of final design to be completed to confirm
328	Minimise the inventory of LNG and of pressurised natural gas in process equipment.	Preconstruction	AGL	NA Open	Check of final design to be completed to confirm
329	Minimise pumping rates and pressure levels in Project components external to the storage tank.	Preconstruction	AGL	NA Open	Check of final design to be completed to confirm
330	Minimise vulnerability of equipment and processes through equipment selection and design.	Preconstruction	AGL	NA Open	Check of final design to be completed to confirm
331	Ensure maximum integrity of flammable material containment.	Preconstruction	AGL	NA Open	Check of final design to be completed to confirm
332	Minimise exposure to people by reducing process complexity and maintenance requirements.	Preconstruction	AGL	NA Open	Check of final design to be completed to confirm

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
333	Ensure systems are available for rapid detection and prompt remote isolation of any leaks.	Preconstruction	AGL	NA Open	Check of final design to be completed to confirm
334	Control all ignition sources.	Preconstruction	AGL	NA Open	Check of final design to be completed to confirm
335	Minimise the opportunity for ignition sources in areas where hydrocarbon leaks are a possibility.	Preconstruction	AGL	NA Open	Check of final design to be completed to confirm
336	Provide passive and active fire protection systems for the gas plant site.	Preconstruction	AGL	NA Open	Check of final design to be completed to confirm
337	Consider the implications of cold metal brittle failure in the design of the plant. The likelihood of a catastrophic cold metal brittle failure event should be rendered negligible through design.	Preconstruction	AGL	NA Open	Check of final design to be completed to confirm
338	Ensure that LNG transfer pipes which enter and leave the storage tank are positioned on the roof of the tank.	Preconstruction	AGL	NA Open	Check of final design to be completed to confirm
339	Minimise the likelihood of over pressure, under pressure or overfill scenarios of the LNG storage tank by instigating appropriate measures in the design of the Project.	Preconstruction	AGL	NA Open	Check of final design to be completed to confirm
<b>7.14.3 Modifications to Management and Mitigation Measures for Hazard and Risk</b>					
340	Advise the Office of Airspace Regulation of the expected start date of the operation of the facility six months prior to commencement of operation.	Preconstruction	AGL	NA Open	Notification not required until six months prior to expected operation of facility

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
341	Reasonable measures will be taken to maintain security of the construction site to prevent third parties gaining unlawful access to the site. Measures will include secure fencing and lighting along the main access road and the pipeline corridor close to Old Punt Road.	Preconstruction	CBI	Compliance Open	Temporary site alongside TAC Access Road fenced with lighting. CBI Occupier of access road only during Civil Works Package. Fencing and lighting to be installed.
342	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.	Construction	CBI	Compliance Open	WMSP - Table 7-1 Gates to site locked after hours. Some incidences of waste material dumped outside site gates. Legacy waste encountered during initial clearing works. Material collected by waste contractor and disposed to landfill - refer ER Site Inspection reports
343	AGL will provide 'as constructed' drawings and details to RAAF.	Operations	AGL	NA Open	NA - operations
344	AGL will continue to consult with all relevant agencies through the detailed design and operation phases of the Project.	Operations	AGL	NA Open	NA
345	An emergency plan will be prepared to comply with clause 174ZC of the Occupational Health and Safety Regulations 2001 (NSW).The emergency response plan will be compiled in accordance with DP&I guidance note HIPAP 1, Emergency Planning.	Operations	AGL	NA Open	OEMP to be developed for operations phase

Item	Commitment	Stage/timing	Responsibility	Compliance Status	Reference/ Comment
346	The proposed emergency traffic arrangements will be reviewed and assessed to ensure compliance with the stated Emergency Vehicle Access Policy No.4.	Operations	AGL	NA Open	NA - operations
347	Compliance with the regulations applicable to major hazard facilities and will continue to consult with WorkCover in order to obtain details of its requirements for inclusion in the site risk assessment and safety report.	Operations	AGL	NA Open	NA - operations
348	AGL will prepare and submit the safety report to WorkCover six months prior to commissioning.	Operations	AGL	NA Open	NA - operations



Annex B

## Monitoring Results

**Table B1.1 Hunter River Area Groundwater Sampling Results – January to June 2013**

Analyte	Units	LOR	Adopted Groundwater Thresholds	January to March 2012 Sampling Results Range	April to June 2013 Sampling Results Range
<b>General Parameters</b>					
Field pH	pH unit	0.1	5.0 to 8.0	6.72 to 7.85	6.4 to 7.2
Electrical Conductivity @ 25°C	µS/cm	1	15000	1280 to 10100	1030 to 6290
Total Dissolved Solids @180°C	mg/L	5	7000	940 to 5850	622 to 3850
Suspended Solids (SS)	mg/L	5	9000	36 to 14600	30 to 3060
<b>Cations</b>					
Calcium	mg/L	1	N/A	14 to 348	18 to 120
Magnesium	mg/L	1	N/A	16 to 329	19 to 148
Sodium	mg/L	1	N/A	144 to 1500	100 to 1040
Potassium	mg/L	1	N/A	11 to 90	10 to 67
<b>Anions</b>					
Total Alkalinity as CaCO <sub>3</sub>	mg/L	1	N/A	310 to 932	310 to 943
Chloride	mg/L	1	N/A	60 to 2860	72 to 1350
Fluoride	mg/L	0.1	1.5	0.2 to 1.1	0.2 to 1.1
Sulfate	mg/L	1	N/A	<1 to 452	<1 to 238
<b>Dissolved Metals</b>					
Arsenic	mg/L	0.001	0.02	<0.001 to 0.033	<0.001 to 0.026
Cadmium	mg/L	0.0001	0.0055	<0.0001 to 0.0002	<0.0001 to 0.0003
Chromium	mg/L	0.001	0.05	<0.001 to 0.002	<0.001 to 0.002
Copper	mg/L	0.001	0.02	<0.001 to 0.005	<0.001 to 0.005
Lead	mg/L	0.001	0.01	<0.001 to 0.002	<0.001 to 0.003
Nickel	mg/L	0.001	0.07	0.001 to 0.006	<0.001 to 0.007
Zinc	mg/L	0.005	0.08	<0.005 to 0.132	0.006 to 0.033
Iron	mg/L	0.05	35	0.29 to 65.8	0.26 to 41.4
<b>Nutrients</b>					
Nitrate as N	mg/L	0.01	1	<0.01 to 0.08	<0.01 to 0.57
Nitrite as N	mg/L	0.01	3	<0.01	<0.01 to 0.02
Nitrite + Nitrate as N	mg/L	0.01	4	<0.01 to 0.08	<0.01 to 0.57
Total Kjeldahl Nitrogen as N	mg/L	0.1	15	1.3 to 23.3	1.4 to 7.9
Total Nitrogen as N	mg/L	0.1	15	1.3 to 23.3	1.6 to 7.9
Total Phosphorus as P	mg/L	0.01	10	0.25 to 5.78	0.21 to 1.97

Analyte	Units	LOR	Adopted Groundwater Thresholds	January to March 2012 Sampling Results Range	April to June 2013 Sampling Results Range
<b>Total Petroleum Hydrocarbons</b>					
C6 - C9 Fraction	µg/L	20	<20	<20	<20
C10 - C14 Fraction	µg/L	50	<50	<50	<50
C15 - C28 Fraction	µg/L	100	<100	<100 to 1100	<100 to 400
C29 - C36 Fraction	µg/L	50	<50	<50 to 410	<50 to 380
C10 - C36 Fraction (sum)	µg/L	50	<50	<50 to 1510	<50 to 780
<b>BTEX</b>					
Benzene	µg/L	1	<1	< 1	< 1
Toluene	µg/L	2	<2	<2	<2
Ethylbenzene	µg/L	2	<2	<2	<2
meta- & para-Xylene	µg/L	2	<2	<2	<2
ortho-Xylene	µg/L	2	<2	<2	<2

Table B1.2 Gas Storage Site Ground and Surface Water Monitoring Results – January to June 2013

Analyte	Units	LOR	Adopted Groundwater Thresholds	January to March 2012 Groundwater Sampling Results Range	April to June 2013 Groundwater Sampling Results Range	Adopted Surface Water Thresholds	January to March 2012 Surface Water Sampling Results Range	April to June 2013 Surface Water Sampling Results Range
<b>General Parameters</b>								
Field pH	pH unit	0.1	3.0 to 7.0	4.11 to 5.41	4.6 to 5.1	3.0 to 8.0	4.74 to 5.14	4.3 to 5.1
Electrical Conductivity @ 25°C	µS/cm	1	1000	82 to 438	102 to 311	1000	123 to 162	106 to 170
Total Dissolved Solids @180°C	mg/L	5	650	84 to 810	52 to 446	650	107 to 178	61 to 160
Suspended Solids (SS)	mg/L	5	5000	<5 to 5020	<5 to 1480	1000	15 to 71	<5 to 62
<b>Cations</b>								
Calcium	mg/L	1	N/A	<1 to 5	<1 to 5	N/A	1 to 2	<1 to 1
Magnesium	mg/L	1	N/A	<1 to 17	<1 to 11	N/A	2	1 to 2
Sodium	mg/L	1	N/A	12 to 36	12 to 36	N/A	15 to 20	11 to 20
Potassium	mg/L	1	N/A	<1 to 5	<1 to 4	N/A	1 to 2	<1

Analyte	Units	LOR	Adopted Groundwater Thresholds	January to March 2012 Groundwater Sampling Results Range	April to June 2013 Groundwater Sampling Results Range	Adopted Surface Water Thresholds	January to March 2012 Surface Water Sampling Results Range	April to June 2013 Surface Water Sampling Results Range
<b>Anions</b>								
Total Alkalinity as CaCO <sub>3</sub>	mg/L	1	N/A	<1 to 7	<1 to 7	N/A	<1 to 1	<1
Chloride	mg/L	1	N/A	20 to 110	18 to 80	N/A	28 to 36	19 to 34
Fluoride	mg/L	0.1	1.5	<0.1	<0.1 to 0.3	1.5	0.5 to 0.7	0.2 to 0.7
Sulfate	mg/L	1	500	2 to 27	2 to 31	500	<1 to 12	4 to 9
<b>Dissolved Metals</b>								
Arsenic	mg/L	0.001	0.01	<0.001	<0.001 to 0.001	0.007	NT	NT
Cadmium	mg/L	0.0001	0.002	<0.0001 to 0.0002	<0.0001 to 0.0002	0.002	NT	NT
Chromium	mg/L	0.001	0.05	<0.001 to 0.002	<0.001 to 0.003	0.05	NT	NT
Copper	mg/L	0.001	0.02	<0.001 to 0.002	<0.001 to 0.003	0.02	NT	NT
Lead	mg/L	0.001	0.02	<0.001 to 0.005	<0.001 to 0.001	0.01	NT	NT
Nickel	mg/L	0.001	0.02	<0.001 to 0.003	<0.001 to 0.01	0.02	NT	NT
Zinc	mg/L	0.005	0.2	0.007 to 0.037	0.006 to 0.127	0.5	NT	NT
Iron	mg/L	0.05	5	0.07 to 2.26	0.13 to 2.95	5	NT	NT

Analyte	Units	LOR	Adopted Groundwater Thresholds	January to March 2012 Groundwater Sampling Results Range	April to June 2013 Groundwater Sampling Results Range	Adopted Surface Water Thresholds	January to March 2012 Surface Water Sampling Results Range	April to June 2013 Surface Water Sampling Results Range
<b>Total Metals</b>								
Arsenic	mg/L	0.001	N/A	NT	NT	0.007	<0.001 to 0.002	<0.001
Cadmium	mg/L	0.0001	N/A	NT	NT	0.002	<0.0001 to 0.0002	<0.0001 to 0.0006
Chromium	mg/L	0.001	N/A	NT	NT	0.05	<0.001 to 0.003	<0.001 to 0.003
Copper	mg/L	0.001	N/A	NT	NT	0.02	<0.001 to 0.004	<0.001 to 0.004
Lead	mg/L	0.001	N/A	NT	NT	0.01	<0.001 to 0.004	<0.001 to 0.008
Nickel	mg/L	0.001	N/A	NT	NT	0.02	0.002 to 0.012	<0.001 to 0.003
Zinc	mg/L	0.005	N/A	NT	NT	0.5	0.008 to 0.076	0.03 to 0.496
Iron	mg/L	0.05	N/A	NT	NT	16	0.83 to 13.6	0.57 to 3.8
<b>Nutrients</b>								
Nitrate as N	mg/L	0.01	1	<0.01 to 4.46	<0.01 to 11.2	3	<0.01 to 0.07	<0.01 to 2.63
Nitrite as N	mg/L	0.01	3	<0.01	<0.01	3	<0.01	<0.01
Nitrite + Nitrate as N	mg/L	0.01	4	<0.01 to 4.46	<0.01 to 11.2	6	<0.01 to 0.07	<0.01 to 2.63
Total Kjeldahl Nitrogen as N	mg/L	0.1	2	<0.1 to 6.3	<0.1 to 3.7	9	0.9 to 1.7	0.4 to 0.8



Analyte	Units	LOR	Adopted Groundwater Thresholds	January to March 2012 Groundwater Sampling Results Range	April to June 2013 Groundwater Sampling Results Range	Adopted Surface Water Thresholds	January to March 2012 Surface Water Sampling Results Range	April to June 2013 Surface Water Sampling Results Range
Ethylbenzene	µg/L	2	<2	<2	<2	<2	<2	<2
meta- & para-Xylene	µg/L	2	<2	<2	<2	<2	<2	<2
ortho-Xylene	µg/L	2	<2	<2	<2	<2	<2	<2
<b>Coliforms</b>								
Total Coliforms	cfu/100ml	NP	N/A	>2420	0	N/A	NT	NT
Faecal coliforms	cfu/100ml	1	N/A	<1	0	N/A	NT	NT
E. Coli	MPN/100ml	1	<LOR	<1	0	N/A	NT	NT

## Notes:

1. ANZECC (2000) Fresh Water Ecosystem Trigger Values for 95% Species Protection
2. NHMRC (2004) Drinking Water Guidelines (Health)
3. Range of values for NSW lowlands rivers
4. Chromium guidelines are for Chromium VI
5. ANZECC Indicative Interim Working Level (IIWL) - Low Reliability Trigger Values
6. NHMRC 2004 Drinking Guidelines (Aesthetics)
7. Value Within 1.1 threshold concentrations
8. Value Greater than 1.1 and up to 2.5 times threshold concentrations
9. Value Greater than 2.5 and up to 10 time threshold concentrations
10. Value Greater than 10 times threshold concentrations



**Table B1.3** *Attended Noise Monitoring Results April to August 2013*

Report No	Date	Time	Duration (min)	Location	Distance from Construction Activities (m)	Predicted LAeq	LAeq	LAmx	L10	L90	Lmin	Comment
1	30-Apr-2013	12:06 PM	15	Site boundary	25	79	52.5	78.1	NA	NA	41.3	Vibratory compaction and aircraft noise.
2	30-Apr-2013	12:54 PM	15	HRBG boundary (R1)	500	53	44.4	60.5	NA	NA	39.0	Vibratory compaction and gust of wind through trees.
3	30-May-2013	12:10 PM	15	Site boundary	25	79	65.3	83.1	NA	NA	44.4	Aircraft noise and loaded trucks passing by.
4	30-May-2013	12:57 PM	15	HRBG boundary (R1)	500	53	42.1	71.9	NA	NA	31.8	Aircraft noise, highway noise
5	28-Jun-2013	12:10 PM	15	Site boundary	25	79	51.2	69.5	54.6	43.6	41.2	Construction noise dominant - reverse beeping, airbrakes used on truck, excavator loading concrete waste into steel body of truck. Tomago Aluminium background noise.
6	28-Jun-2013	12:34 PM	15	HRBG boundary (R1)	500	53	46.5	56.9	48.7	43.7	41.4	Construction noise dominant - reverse beeping, track machine over hardstand, wind, frogs and bird noise throughout. . Tomago Aluminium background noise
7	29-Jul-2013	3:23 PM	15	Site boundary	25	79	46.3	57.6	50.0	42.2	38.0	Aircraft noise, reverse beepers on machines.
8	29-Jul-2013	3:54 PM	15	HRBG boundary (R1)	500	53	40.0	55.5	42.3	35.7	33.1	Bird calling dominant noise, track machine, highway noise.
9	29-Aug-2013	11:55 AM	15	Site boundary	0	53	51.7	69.5	52.7	39.3	36.1	Compaction roller, goods being delivered to laydown area,
10	29-Aug-2013	12:23 PM	15	HRBG boundary (R1)	500	53	39.2	53.1	42.3	34.4	31.7	Dominant noise is wind and trees rustling, air craft noise.

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