Annual Environment Performance Report 2016-2017

Camden Gas Project

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Document revision history

Date	Version	Author	Comment
27/10/2017	0	AGL	Final version
01/11/2017	1	AGL	Final version for distribution.

Abbreviations

Abbreviation	Description
AEMR	Annual Environmental Management Report
AEPR	Annual Environmental Performance Report
APPEA	Australian Petroleum Production and Exploration Association
CCC	Community Consultative Committee
CGP	Camden Gas Project
CoC	Condition of Consent
CSG	Coal Seam Gas
DA	Development Application
DG	Director General
DP&E	Department of Planning and Environment
DRG	Department of Planning and Environment – Division of Resources and Geoscience
EECs	Endangered Ecological Communities
EIS	Environmental Impact Statement
EMAI	Elizabeth Macarthur Agricultural Institute
EMP	Environmental Management Plan
EMS	Environmental Management System
EPA	Environment Protection Authority
EP&A Act	Environmental Planning and Assessment Act 1979
EPL	Environment Protection Licence
GGL	Gas Gathering Line
HS&E	Health Safety and Environment
LGA	Local Government Area
NOW	NSW Office of Water
NOX	Nitrogen oxides
NPI	National Pollutant Inventory
OEH	Office of Environment and Heritage
PA	Project Approval
PAC	Planning Assessment Commission
PEL	Petroleum Exploration Lease
POP	Petroleum Operations Plan
PPL	Petroleum Production Lease
RBTP	Ray Beddoe Treatment Plant
RPGP	Rosalind Park Gas Plant
SIS	Surface to-In-Seam
SOX	Sulphur oxides
SSD	State Significant Development
VLMP	Vegetation and Landscape Management Plan

Executive Summary

This Annual Environmental Performance Report (AEPR) has been prepared to meet the reporting requirements of the NSW Department of Planning and Environment (DP&E) and Department of Planning and Environment – Division of Resources and Geoscience (DRG). This AEPR covers the AGL Camden Gas Project (CGP) located in the Camden, Campbelltown and Wollondilly Local Government Areas (LGAs) for the period of 01 July 2016 to 30 June 2017.

Reporting Requirements

The purpose of the AEPR is to report in accordance with the CGP's Development Application Approvals and Project Approvals on the following matters:

- The standards, performance measures and statutory requirements the development is required to comply with;
- An assessment of the environmental performance of the development to determine whether it is complying with these standards, performance measures, and statutory requirements;
- Reporting against the implementation of the Project Commitments Register;
- Copy of the Complaints Register for the preceding twelve month period and indicating what actions were (or are being) taken to address these complaints;
- Indication of what actions were taken to address any issue and/or recommendation raised by the Community Consultative Committee (CCC);
- Provision of the detailed results of all the monitoring required by each consent;
- Review of the results of this monitoring against:
  - Impact assessment criteria;
  - Monitoring results from previous years;
  - Predictions in relevant environmental assessment documents.
- Identify any non-compliance during the year;
- Identify any significant trends in the data; and
- If any non-compliance is detected, describe what actions and measures would be carried out to ensure compliance, clearly indicating who would carry out these actions and measures, when they would be carried out, and how the effectiveness of these measures would be monitored over time.

Field Development

Field development during this reporting period has been limited with no construction works being undertaken. As part of AGL's commitment to progressively decommission and rehabilitate the field, AGL will not, and has not, drilled new wells. Decommissioning of two wells (RP04 and RP11) was completed. Decommissioning of a further two wells (RP03 and MT10) continued and was completed after this reporting period. Rehabilitation for these well sites is ongoing.

Environmental management & Performance

In 2008 AGL commenced the development of a Project Environmental Management System (EMS) to manage potential environmental aspects associated with CGP activities. As part of this process an Environmental Management Plan (EMP) and Environmental Sub Plans were prepared in order to facilitate the uniform implementation of environmental management. During this reporting period, the EMP and numerous sub-plans were updated to improve AGL's environmental management and procedures.

Air Pollution

Quarterly stack emissions monitoring results were compliant with the licence concentration limits of EPL 12003 for this period.

Nitrogen Dioxide, Sulphuric Acid Mist and Sulphur Dioxide concentrations were measured at the emission monitoring points of the RPGP and compared to the input data used in the modelling for the air impact assessment. The testing confirmed compliance with air emission limits at the RPGP and therefore compliance at the nearest residence during this reporting period.

There were no exceedances of the EPL 12003 licence limits for any of the assessable annual pollutant loads for the RPGP as reported within the 2015/2016 Annual Return. All assessable pollutants were also reported at below the annual load estimations as predicted in the RPGP Environmental Impact Statement (EIS).

Non-compliance with EPL 12003 continuous monitoring conditions O2 and M2.1 in relation to condition M2.3 occurred during this reporting period. Details of this non-compliance are provided within Section 9.1.1 of this report.

The National Pollutant Inventory (NPI) annual report for the 2016/17 financial year was submitted on 28 September 2017.

During the reporting period, there were no complaints received regarding dust or other air pollutants.

Erosion & Sediment Control

Activities associated with erosion and sediment controls were compliant for the period with no community complaints received or reportable incidents recorded.

Surface Water

The CGP harvests rain water from the run off of all buildings within the RPGP. This water is stored in above ground rain water tanks and is used to service the RPGP's amenities and wash bay. Once used, the water is separately stored in in-ground tanks as grey water and septic water. A combined total of 235.5 KL of grey water and septic water was transported off site by licensed contractors for disposal at a licensed facility.

There were no issues identified in relation to surface water for the reporting period.

Groundwater

The total volume of produced water generated has decreased from 2,573 KL last reporting period to 1,730 KL this period, representing a decrease of 48.7%.

There was no produced water reused for well workovers during the reporting period due to the reduced number of workovers and nature of workover activities performed.

Total recycled produced water from well sites and the RPGP has decreased from 4,419.36 KL last reporting period to 4,022.28 KL this period. This decrease is due to a reduction in produced water from the well sites and removal of produced water stored in the RPGP flare pit.

During this reporting period AGL was compliant with Water Access Licence conditions, Works and Use Approval conditions, and EPL 12003 groundwater reporting requirements.

Waste Management

Waste volumes were recorded for the RPGP during this reporting period which conforms to the relevant conditions of DA 282-6-2003-I. No non-compliances with waste requirements were identified during this reporting period.

Hazardous Materials

Activities associated with hazardous material management were compliant for the period with no reportable incidents recorded or community complaints received.

Activities associated with land contamination or pollution were compliant for the period with no reportable incidents or community complaints received.

Flora & Fauna

No development and/or clearing activities were undertaken with the potential to impact threatened or native flora and fauna. Consequently, activities associated with threatened or native flora and fauna were compliant for the period with no incidents or complaints received.

Noxious Weeds

Activities associated with weed control were compliant for the period with no reportable incidents or community complaints received.

Noise (Operational and Construction)

No exceedances relating to operational noise from the RPGP were received during the 2016/17 reporting period. This trend is consistent with previous years. Noise performance is consistent with operational noise predictions in the RPGP EIS.

The CGP's operations continued to meet noise requirements during the reporting period.

No complaints were received relating to noise from operations during the reporting period.

Visual Amenity

The Landscape and Lighting Audit Report (September 2014) concluded that ground-truthing of landscape works identified that the majority of the Vegetation and Landscape Management Plan (VLMP) monitoring was correct, in accordance with performance and review objectives, and in a format that is suitable for continued and on-going report monitoring. Based on the performance of the landscape plantings and the findings of the September 2014 audit, the DP&E has granted AGL an exemption from commissioning an independent Landscape and Lighting Audit in September 2016. The next audit will be completed in September 2018.

Seven flare events occurred during this reporting period for a combined duration of 959 minutes. This is an increase from the previous AEPR reporting period where four field flare events occurred at the RPGP which lasted a total of 263 minutes. This increase is due to a higher number of unscheduled shutdowns at the RPGP.

Cultural Heritage

There were no activities associated with Aboriginal or European heritage matters identified and consequently no reportable incidents or community complaints received.

Bushfire

During this reporting period, there were no bushfires on land managed by AGL.

Public Safety

During this reporting period, there were no public safety related reportable incidents recorded.

Safety and Risk Management

During this reporting period, there were no significant safety or risk management related reportable environmental incidents recorded.

Rehabilitation

Quarterly inspections were undertaken at rehabilitated wells LB07, MH01, and RP11 throughout the reporting period. Rehabilitation works progressed well towards achieving the Site Specific Rehabilitation Completion Criteria and only minimal weed control and additional seeding was required across the sites. Site Specific Rehabilitation Completion Criteria was achieved at LB07 and MH01 wells during the reporting period. RP11 continues to be monitored quarterly until the Site Specific Rehabilitation Criteria is achieved.

Environmental Complaints

No community complaints were received during this reporting period. This is consistent with the previous reporting period.

Community Liaison

AGL continues to pro-actively engage with the community in order to keep residents and interested community members informed of the CGP and ensure that community interests are listened to and addressed. AGL has raised awareness of its activities and maintained positive relations with the community through a range of community engagement initiatives.

A considerable amount of consultation has taken place directly with each landowner. This has provided understanding of landowner interests and ensured that these interests can be quickly addressed.

A total of two CCC meetings were undertaken during this reporting period.

Environmental Non-Compliance Issues and Incidents

Non-compliances with the RPGP site's EPL 12003 are reported in the Annual Return to EPA.

There was one non-conformance with the EPL reported within the 2015-16 Annual Return in relation to EPL 12003 Conditions O2 and M2.1 in relation to M2.3 (continuous air monitoring).

During this reporting period AGL received no Penalty Infringement Notices (PIN) from the EPA.

One of the four incidents reported during 2016-2017 was determined to be a non-compliance with EPL 12003. The December 2016 Flare Pit Water Analysis Report was not prepared and uploaded to the AGL website within 14 business days of the data being received. The Report was prepared and uploaded to the website 5 days late on 09 January 2017. The incident was voluntarily reported to the EPA and will be reported as a Non-Compliance in the 2016-17 Annual Return Report. AGL has investigated the incident and implemented actions to prevent a recurrence.

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1. Introduction

1.1. History of the Camden Gas Project

This Annual Environmental Performance Report (AEPR) has been prepared by AGL Upstream Investments Pty Ltd (AGL) to meet the reporting requirements for the period of 1 July 2016 to 30 June 2017 for the Camden Gas Project (CGP).

The CGP is located 65 kilometres (km) south-west of Sydney in the Macarthur region of NSW and consists of 144 gas wells, low-pressure underground gas gathering line's (GGLs), a high pressure supply line, gas plant facilities and associated infrastructure.

Sydney Gas initially developed the CGP and established the first two Petroleum Production Leases (PPLs) in New South Wales. Exploration activities in the Macarthur region commenced in 1998 and since that time an extensive program of geological surveys and exploration drilling has been completed.

The construction of the Ray Beddoe Treatment Plant (RBTP) and the first successful gas delivery into the former AGL distribution network occurred in May 2001. This progress led to Sydney Gas applying for PPL 1.

Further appraisal led to the addition of three production wells in 2002 under PPL 2, bringing the total of drilled production wells to twenty-five.

Operation of the Rosalind Park Gas Plant (RPGP) commenced under PPL 4 on 16 December 2004 and the project expanded to include PPL 4, PPL 5 and PPL 6.

In February 2007, the RBTP was shut down and the wells were connected to the RPGP. The RBTP was decommissioned, rehabilitated and the land handed back to the landowner during the 2008/09 reporting period.

In 2008, AGL developed an Environmental Management Plan (EMP) to consolidate the environmental management of the CGP. This plan and selected sub plans were updated during 2012 to improve AGL's environmental management procedures for the CGP. The 2012 EMP was approved by the Director General in July 2012 and implemented. The EMP and numerous sub-plans were updated again in this reporting period of 2016 to 2017.

On 1 April 2009, the CGP changed from a Joint Venture between AGL and Sydney Gas (Camden) Operations to become wholly owned by AGL.

Further to AGL's consolidation efforts, PPLs 1, 2, 4, 5, and 6 were transferred to AGL in November 2010.

As part of the progressive development of the CGP gas field, to date, wells have been drilled and proven in the Logan Brae, Wandinong, Glenlee, Menangle Park, Rosalind Park, Mount Taurus, Razorback, Elizabeth Macarthur Agricultural Institute (EMAI), Sugarloaf, Spring Farm and Kay Park fields.

In February 2013 AGL requested that the then NSW Department of Planning & Environment (DP&E) suspend its assessment of the proposed Northern Expansion Project of the CGP so that AGL could consider concerns raised by the community.

In February 2016, AGL announced that it will progressively decommission wells and rehabilitate sites at the CGP prior to ceasing production in 2023.

During this reporting period, no new wells were drilled. Decommissioning of two wells (RP04 and RP11) was completed. Decommissioning of a further two wells (RP03 and MT10) continued and were completed after this reporting period.

1.1.1. Environmental Management Improvements

During this reporting period AGL has maintained a focus on enhanced environmental improvements. On-going environmental management improvements have included:

- Continued enactment of the CGP EMS;
- Review and implementation of the updated CGP EMP and associated sub plans;
- Review and implementation of the updated Environmental Aspects and Impacts Register;
- Testing and revision of the Pollution Incident Response Management Plan (PIRMP);
- Implementation of "myHSE" – AGL's online system for reporting environmental incidents, near misses and hazards;
- Continued monitoring of rehabilitation completion criteria for rehabilitated wells LB07, MH01, and RP11 in consultation with DRG and EPA;
- Continued provision of environmental monitoring data to external stakeholders through the uploading of information to the CGP website;
- Hosting one Environment Update Meeting with DP&E, EPA and DRG;
- Implementation of the Authority to Work form and CM3 Contractor Prequalification to evaluate contractor environmental performance, scope of works and Health, Safety and Environmental Management System prior to engaging contractors to commence work;
- Internal environmental awareness training on Wastewater Management, Pollution Incident Response Management Plan, CMO Compliance Management System, Operations Environmental Management Plan, and Rehabilitation and Landscape Management Sub Plan delivered to CGP employees;
- Completion of corrective actions from previous Independent Environmental Audits;
- Further implementation of AGL's compliance management system, CMO, and expansion to include legislative compliance requirements, as well as internal audits and associated corrective actions; and
- Working in partnership with contracting companies, appropriate authorities and the community to resolve issues and concerns with the CSG industry and ensure a practical and sustainable future for the industry.

1.2. Purpose of Annual Environmental Performance Report

This AEPR has been prepared to meet the reporting requirements of the DP&E and DRG for the AGL CGP located in the Camden, Campbelltown and Wollondilly Local Government Areas (LGAs) for the period of July 2016 to June 2017. The requirements of the DP&E and DRG are provided in Section 1.2.1 and 1.2.2 below.

1.2.1. Requirements of the NSW Department of Planning and Environment (DP&E)

The requirements for an AEPR are set out in the following Development Consent Conditions:

- DA No. 15-1-2002-i dated 23 July 2002, Schedule 3 Condition of Consent (CoC) No. 34;
- DA No. 246-8-2002-i dated 20 September 2002 Schedule 3 CoC No. 16;
- DA No. 282-6-2003-i dated 16 June 2004, Schedule 5 CoC No. 5;
- DA No. 183-8-2004-i dated 16 December 2004 Schedule 2 CoC No. 24;
- DA No. 9-1-2005 dated 26 May 2005 Schedule 2 CoC No. 42;
- DA No. 75-4-2005 dated 7 October 2005, Schedule 2 CoC No. 54;

- PA No. 06_0137 dated 9 December 2006, Schedule 4 CoC No. 3;
- PA No. 06_0138 dated 9 December 2006, Schedule 4 CoC No. 3; and
- PA No. 06_0291 dated 4 September 2008, Schedule 4 CoC No.3.

In summary, the Development Consents require the preparation of an AEPR within twelve months of the date of the consent, and annually thereafter during the life of the development. As the approval dates vary, the AEPR is prepared on a July to June basis to standardise reporting and to meet the requirements of both the DP&E and DRG.

The AEPR is to be submitted to the Director-General and shall include, but not be limited to:

- The standards, performance measures and statutory requirements the development is required to comply with;
- An assessment of the environmental performance of the development to determine whether it is complying with these standards, performance measures, and statutory requirements;
- Reporting against the implementation of the Project Commitments Register;
- A copy of the Complaints Register for the preceding twelve-month period and indicating what actions were (or are being) taken to address these complaints;
- Indication of what actions were taken to address issues and/or recommendations raised by the CCC;
- Provision of the detailed results of the monitoring required by each consent;
- Review of the results of this monitoring against:
    - Impact assessment criteria;
    - Monitoring results from previous years;
    - Predictions in relevant environmental assessment documents.
- Identify non-compliances during the year;
- Identify significant trends in the data; and
- If a non-compliance is detected, describe what actions and measures would be carried out to ensure compliance, clearly indicating who would carry out these actions and measures, when they would be carried out, and how the effectiveness of these measures would be monitored over time.

This document has been prepared to address the requirement for an AEPR, for the period of 1 July 2016 to 30 June 2017, pursuant to the above listed Development Application Approvals and Project Approvals.

1.2.2. Requirements of Department of Planning and Environment – Division of Resources and Geoscience (DRG)

The requirement for an Annual Environmental Management Report (AEMR) is set out in Clause 3 of PPL 1, 2, 4, 5, and 6 transferred to AGL by the Director-General on 22 November 2010, which states:

The AEMR must:

- Report against compliance with the POP;
- Report on progress in respect of rehabilitation completion criteria;
- Report on the extent of compliance with regulatory requirements; and
- Have regard to any relevant guidelines adopted by the Director-General.

This AEPR has been prepared in accordance with clause 3 of PPL 1, 2, 4, 5 and 6 and the DRG guideline EDG03 *'Guidelines to the Mining, Rehabilitation and Environmental Management Process (Version 3, 2006)'*.

Where information required under a heading in EDG03 is not applicable to the CGP, the heading has been kept and the applicability stated. Some documents required by DRG EDG03 guideline (e.g. 'Plan 3 Land Preparation', 'Plan 4 Proposed Mining Activities') are not relevant to the operation of the CGP or its annual reporting, and hence have been excluded from this AEPR.

A plan showing the locations of the PPLs is included as Appendix A.

1.3. Format of the Annual Environment Performance Report

This AEPR is formatted as follows:

- **Section 1:** Introduction - Provides an introduction and background of the AEPR and its history;
- **Section 2:** Camden Gas Project Area Details – Provides the projects details and relevant contacts;
- **Section 3:** Environmental Standards, Performance Measures and Statutory Requirements - Lists the environmental regulatory performance requirements relevant to the CGP;
- **Section 4:** Operations within the Reporting Period - Describes the operations during the reporting period;
- **Section 5:** Environmental Management and Performance - Outlines the environmental management and performance of the CGP for the period;
- **Section 6:** Rehabilitation - Describes the rehabilitation undertaken within the CGP during the reporting period;
- **Section 7:** Project Commitments Register - Provides an update to the Project Commitments Register (Compliance Register);
- **Section 8:** Stakeholder Engagement - Describes the stakeholder engagement that has been undertaken during the reporting period; and
- **Section 9:** Summary of Environmental Non-Compliance Issues and Actions – Describes the non-conformances identified and actions to address non-conformances for the reporting period.

2. Camden Gas Project Area Details

2.1. Project Details and Contacts

A map of the CGP and its PPL locations is contained in Appendix A. The details of each property or area of the CGP are provided in Appendix B. The CGP infrastructure map for works undertaken during this reporting period is provided in Appendix C.

A list of project details and contacts as required by EDG03 is provided in Table 2-1.

Table 2-1: Project Details and Contacts

Project Details	
Project Name	**Camden Gas Project**
Titles / Consents	Refer to Table 3-1
Expiry Date of Titles / Consents	Refer to Table 3-2
Titleholder	AGL Upstream Investments Pty Limited
Operator	AGL Upstream Investments Pty Limited
Project Manager Details	
Contact Name	Kelly Franke
Position	Operations Superintendent
Contact Address	AGL Rosalind Park Gas Plant Lot 35, Medhurst Road, Menangle NSW 2568
Telephone	02 4633 5200
Facsimile	02 4633 5201
Email	kfranke@agl.com.au
Reporting Officer Details	
Contact Name	Aaron Clifton – Environment Business Partner
Contact Address	AGL Rosalind Park Gas Plant Lot 35, Medhurst Road, Menangle NSW 2568
Telephone	02 4633 5200

Facsimile	02 4633 5201
Email	aclifton@agl.com.au
Other Contact Details	
24 hour hotline	1300 799 716
POP and AEMR Reporting Periods	
POP Commencement Date	06 March 2017
POP Period End Date	30 June 2018
AEMR Commencement Date	July 2016
AEMR Period End Date	June 2017

3. Environment Standards, Performance Measures and Statutory Requirements

This section provides a list of the environmental regulatory requirements relevant to the CGP for the reporting period.

3.1. Consents, Leases and Licences

Seven Development Applications (DAs), three Project Approvals and one Concept Plan Approval have been approved for the CGP under the Environmental Planning and Assessment Act 1979 (EP&A Act). During the reporting period, there was one modification to existing DA 282-6-2003-I. Table 3-1 provides a description of the activities for which each of the DAs and Project Approvals has been issued.

Table 3-1 Activities described by approved Development Applications

Development Application No.	Description of Proposed Development
DA No. 15-1-2002i, dated 23 July 2002	The Minister for Planning (DP&E) determined the development application for Stage 1 in accordance with Section 76A, Section 80, and Section 91 of the *Environmental Planning and Assessment Act 1979* by granting consent to the proposed development referred to as "The Camden Gas Project Stage 1". The Conditions of Development Consent for DA No. 15-1-2002i-I dated 23 July 2002 relate to the Camden Gas Project Stage 1 (the 'Development') issued to Sydney Gas Operations Ltd. The Development Consent describes the Development as: - "The continued operation of the existing 20 production wells; - Operation of 5 additional wells not yet completed and/or drilled; - Operation of the existing and proposed gas gathering system; - Operation of the existing gas treatment plant; - Production of up to 93,000 GL/month from the treatment plant; - Sale and distribution of gas to the AGL gas network; and - Operation of the existing site office and pipeyard depot."
	A modification to this DA, dated 16 May 2006, was issued for the following: - "Construction, drilling and operation of a directional well from LB09".
	A modification to this DA, approved 9 February 2007, was issued for the following: - "re-drilling of wells Apap 01 and Mahon 01."
	A modification to this DA, dated 4 July 2007, was issued for the following: - "construction, drilling and operation of 2 surface to in-seam wells (AP02/AP03) at AP01".
	A modification to this DA, dated 4 August 2008, was issued for the Kay Park and Loganbrae gas gathering line modification project.
	The Minister for the then NSW Department of Infrastructure, Planning and Natural Resources (now DP&E) determined the development application in accordance with Section 80 of the *Environmental Planning and Assessment Act 1979*. The Conditions

Development Application No.	Description of Proposed Development
DA-246-8-2002i – dated 20 September 2002	of Development Consent for DA No. DA-246-8-2002i dated 20 September 2002, relate to the Camden Gas Project Stage 1 (the 'Development'). The Development Consent describes the proposed development as: - "The connection of 3 existing wells (KP1, KP2, and KP3) to the Ray Beddoe Treatment Plant, and the continued production and sale of methane gas from the 3 wells.
	A modification to this DA, dated 4 July 2007, was issued for the following: - "construction, drilling and operation of 2 surface to in-seam wells (KP05 and KP06) at KP01".
	A modification to this DA, dated 4 August 2008 was issued for the Kay Park and Loganbrae gas gathering line modification project.
	A modification to this DA, dated 3 December 2008 was issued for the construction and operation of one Surface SIS well (KP05) and one directional well (KP06) from KP01.
	A modification to this DA, dated 20 April 2011, was issued for the construction, drilling and operation of 2 surface to in-seam wells (KP05 and KP06).
DA No. 282-6-2003-i – 16 June 2004	The then Minister for Urban Affairs and Planning (now DP&E) determined the development application for Stage 2 in accordance with Section 76A, Section 77A, and Section 91 of the *Environmental Planning and Assessment Act 1979* by granting consent to the proposed development referred to as "The Camden Gas Project Stage 2". The Conditions of Development Consent (reference 112467721) for DA No. 282-6-2003-i dated 16 June 2004 relate to the Camden Gas Project Stage 2 (the 'Development') issued to Sydney Gas Operations Ltd. The Development Consent describes the Development as: - "construction and drilling of 20 wells on the EMAI site; - Operation and production of gas from the existing (drilled) 23 wells and 20 wells to be constructed (a total of 43 wells); - Construction and operation of the gas gathering system; - Construction and operation of the gas treatment plant, associated workshop and office facilities; and - Production of up to 14.5 petajoules per annum from the gas treatment plant."
	A modification to this DA, dated 26 August 2004, was issued to include additional land that was omitted from the development consent.
	A modification to this DA, dated 01 February 2005, was issued to amend an access road and gathering line route on the EMAI.
	A modification to this DA, was issued, dated 01 June 2005.

Development Application No.	Description of Proposed Development
	A modification to this DA, dated 16 May 2006, was issued for the following: - "Construction, drilling and operation of 1 directional well from GL7 and 2 directional wells from GL10".
	A modification to this DA, approved 22 October 2006, was issued for the following: - "Construction, drilling and operation of 1 directional well (GL16) from GL7 and 1 directional well (GL15) and 1 Surface to in-seam well (GL14) from GL10"
	A modification to this DA, approved 1 November 2006, was issued for the following: - "construction, drilling and operation of 1 directional well (GL16) from GL7 and 2 Surface to in-seam wells (GL14 and GL15) from GL10."
	A modification to this DA, approved 2 May 2007 was issued for the following: - relocation of the Rosalind Park Gas Plant access road.
	A modification to this DA, dated 4 July 2007, was issued for the following: - "construction, drilling and operation of 1 Surface to in-seam well (EM38) at EM20 and upgrading (twinning) of the gas gathering line between MP14-GL10, GL10-GL05, GL05-GL07 and RP03-RP08"
	A modification to this DA, dated 11 April 2008, was issued for the following: - "construction, drilling and operation of 2 Surface to in-seam wells EM39 (from EM02) and GL17 (from GL05), upgrading (twinning) of the gas gathering line from EM39 to the junction of the gas gathering line and road to the EM03 well, and connection of the new wells to the existing gas gathering system."
	A modification to this DA, dated 16 March 2009, was issued for the construction of an access road to the existing RP09 gas well and the twinning of a small section of the existing gas gathering line between RP08 and the RPGP.
	A modification to this DA, dated 18 September 2009, was approved for the re-routing of a damaged gas gathering line at Glenlee.
	A modification to this DA, dated 25 November 2010, was issued for the modification of RPGP noise monitoring requirements, air emission concentration limits and waste storage and generation volumes.
	A modification to this DA, dated 27 March 2017, was issued to delete: - conditions 48, 49, 51, 54, 55, 58, 68, 72, 103 and 104 of Schedule 4; - conditions 12, 13, 14 and 15 of Schedule 4; - Schedule 6; and - Schedule 8. This modification was made in response to recommendations from previous Independent Environmental Audits to remove inconsistencies between DA 282-6-2003-I and EPL 12003.

Development Application No.	Description of Proposed Development
DA-183-8-2004i – 16 December 2004	The then Minister for the NSW Department of Infrastructure, Planning and Natural Resources (now DP&E) determined the development application in accordance with Section 80 of the *Environmental Planning and Assessment Act 1979*. The Conditions of Development Consent for DA No. DA-183-8-2004i dated 16 December 2004 relate to the Camden Gas Project Stage 2 (the 'Development'). The project involves the following: - Connection of 15 existing coal seam methane wells to the Rosalind Park Gas Plant from the Mount Taurus and Menangle Park properties, for the production of methane gas; and - Construction of a Dam at the MT1 gas well site.
	A modification to this DA , dated 4 July 2007, was issued for the following: - "construction, drilling and operation of 1 Surface to in-seam well (MP30) at MP13 and upgrading (twinning) of the gas gathering line between MP13 and MP14."
	A modification of this DA (DA 183-8-2004i - Mod 2), dated the 9 July 2012, was issued for the following: - "Construction, drilling and operation of 1 Surface to in-seam well (MP25) adjacent to MP16 and upgrading (twinning) of the gas gathering line between MP16 and MP13/30."
DA 9-1-2005 – 26 May 2005	The Minister for the NSW Department of Infrastructure, Planning and Natural Resources (now DP&E) determined the development application in accordance with Section 80 of the *Environmental Planning and Assessment Act 1979*. The Conditions of Development Consent for DA No. DA-9-1-2005 dated 26 May 2005, relate to the Camden Gas Project Stage 2 (the 'Development'). The Development Consent describes the proposed development as: - "Construction and drilling of well GL11; - Construction of a gas gathering system between four wells at Glenlee and two wells at EMAI; - Connection of 6 coal seam methane wells to the previously approved Stage 2 Camden Gas Project – Gas Treatment Plant, for the production of methane gas."
	A modification to this DA, dated 16 May 2006, was issued for the following: - "Construction, drilling and operation of a directional well from each of GL02 and GL11."
	A modification to this DA, dated 4 July 2007, was issued for the following: - "upgrading (twinning) of the gas gathering line between GL02 and GL05."
	A modification to this DA, dated 16 November 2010, was issued for the following: - modification of Schedule 2, Condition 26 to allow pasture species used in well site rehabilitation to be selected in consultation with the landowner.
DA 75-4-2005 – 07 October 2005	The then Minister for the NSW Department of Infrastructure, Planning and Natural Resources (now DP&E) determined the development application in accordance with Section 80 of the Environmental *Planning and Assessment Act 1979*. The Conditions of Development Consent for DA No. DA-75-4-2005 dated 07 October 2005 relate to

Development Application No.	Description of Proposed Development
	the Camden Gas Project Stage 2 (the 'Development'). The Development Consent describes the proposed development as: - "Construction and drilling of 7 wells; - Construction of a gas gathering system and access roads; - Connection of the wells to the Stage 2 Camden Gas Project – Gas Treatment Plant; and - Production of methane gas."
	A modification to this DA, dated 4 July 2007, was issued for the following: - "construction and drilling of 9 wells, including 2 Surface to in-seam wells (SL08 and SL09) at SL03."
	A modification to this DA, dated 10 January 2010, was approved for the twinning of a gas gathering line from well surface locations SL03 and SL09 to the Rosalind Park Gas Plant.
Project Approval 06_0137 – 9 December 2006	The then Minister for Planning approved the Project under Section 75J of the *Environmental Planning and Assessment Act 1979*. The Conditions of Consent for Project Approval 06_0137 dated 9 December 2006 relate to the Razorback Wells (RB03-RB12). The project involves the following: - Construction and drilling of wells RB03-RB12 and gas gathering lines.
Project Approval 06_0138 – 9 December 2006	The then Minister for Planning approved the Project under Section 75J of the *Environmental Planning and Assessment Act 1979*. The Conditions of Consent for Project Approval 06_0138 dated 9 December 2006 relate to the Elizabeth Macarthur Institute Wells (EM23-EM36). The project involves the following: - Construction and drilling of wells EM23-36 and gas gathering lines.
	A modification to this Approval, dated 6 August 2007, was issued for the following: - "One additional directional well at an existing well, changing an approved but not yet constructed well to a directional well, connection of the wells to the existing gas gathering system and production of coal seam methane gas."
Project Approval 06_0291 – 4 September 2008	The then Minister for Planning approved the Project under 75J of the *Environmental Planning and Assessment Act 1979*. The Conditions of Consent for Project Approval 06_0291 dated 4 September 2008 relate to the Spring Farm and Menangle Park wells. The project involves the following: - Construction and drilling of wells and gas gathering lines in the Spring Farm and Menangle Park area.
	Modifications to this PA were issued 7 January 2011 and 20 April 2011 to include gas gathering lines MP06 – 11 and MP11 – MP23 (via MP19), and, MP03-05 and MP22 – SL02 respectively.
Concept Plan Approval 06_0292 – 4 September 2008	The then Minister for Planning approved the Project under 75O of the *Environmental Planning and Assessment Act 1979*.

Development Application No.	Description of Proposed Development
	The Conditions of Consent for Project Approval 06_0292 dated 4 September 2008 relate to the Spring Farm and Menangle Park wells. The project involves the following: - Construction and operation of coal seam methane gas wells and associated infrastructure within the Stage 2 Concept Plan area of the Camden Gas Project.

The standards, performance measures and statutory requirements the CGP is required to comply with are outlined in the consents, leases and licences for the CGP. A list of the relevant consents, leases and licences is contained in Table 3-2. The standards, compliance levels and regulatory requirements resulting from the consents, leases and licences are identified for each matter reported in Section 5 Environmental Management and Performance of this AEPR.

Table 3-2 Consents, Leases and Licences

Title	Grant Date and Term
Petroleum Exploration Licence No.2 (PEL), issued by the Department of Mineral Resources (now DRG)	AGL has previously surrendered PEL 2.
PPL No.1, issued by the Department of Mineral Resources (now DRG)	2 September 2002 (for a period of 21 years - the lease holder shall relinquish areas where no wells have been drilled within 10 years of granting this lease)
PPL No.2, issued by the Department of Mineral Resources (now DRG)	10 October 2002 (for a period of 21 years)
PPL No.4, issued by the Department of Mineral Resources (now DRG)	6 October 2004 (for a period of 21 years)
PPL No.5, issued by the Department of Mineral Resources (now DRG)	28 February 2007 (for a period of 21 years)
PPL No. 6, issued by the Department of Industry and Investment (now DRG)	29 May 2008 (for a period of 21 years)
Conditions of Consent for DA 15-1-2002i (file no. S00/00945), issued by the DP&E. The requirements of the Environment Protection Licence 12003 have been incorporated into relevant conditions of consent	23 July 2002 (for a period of 21 years from date of granting of the production lease). If after 5 years of the date of this consent any well that is subject of this consent has not yet been drilled or completed, then the applicant shall surrender the approval for that well.

Title	Grant Date and Term
	The following modifications have been issued to this DA: - modification dated 16 May 2006 - modification dated 9 February 2007 - modification dated 4 July 2007 - modification dated 4 August 2008
Conditions of Consent for DA 246-8-2002i (file no. S02/01615), issued by the DP&E	20 September 2002 (for a period of 21 years from date of granting of the production lease). The following modifications have been used to this DA: - modification dated 4 July 2007 - modification dated 4 August 2008 - modification dated 3 December 2008 - modification dated 20 April 2011
Conditions of Consent for DA 282-6-2003-i, issued by the DP&E. The requirements of the Environment Protection Licence 12003 and 3A Permit have been incorporated into this Condition of Consent.	16 June 2004 (for a period of 21 years). The following modifications have been issued to this DA: - modification dated 26 August 2004 - modification dated 01 February 2005 - modification dated 01 June 2005 - modification dated 16 May 2006 - modification dated 22 October 2006 - modification dated 1 November 2006 - modification dated 2 May 2007 - modification dated 4 July 2007 - modification dated 11 April 2008 - modification dated 16 March 2009 - modification dated 18 September 2009 - modification dated 25 November 2010 - modification dated 27 March 2017
Conditions of Consent for DA-183-8-2004i, issued by the DP&E	16 December 2004 (for a period of 21 years). A notice of modification was issued on the 4 July 2007. A notice for modification was issued on the 9 July 2012
Conditions of Consent for DA 9-1-2005, issued by the DP&E	26 May 2005 (for a period of 21 years). The following modifications have been issued to this DA: - modification dated 16 May 2006 - modification dated 4 July 2007 - modification dated 16 November 2010

Title	Grant Date and Term
Conditions of Consent for DA 75-4-2005, issued by the DP&E	07 October 2005 (for a period of 21 years or expiry date of PPL No.4) The following modifications have been issued to this DA: - modification dated 4 July 2007 - modification dated 10 January 2010
Conditions of Consent for DA 171-7-2005, issued by the DP&E	25 March 2006 (for a period of 21 years or expiry date of PPL No.4)
Conditions of Approval for PA 06_0137, issued by the DP&E	9 December 2006 (for a period of 21 years or expiry date of PPL No.4)
Conditions of Approval for PA 06_0138 issued by the DP&E	9 December 2006 (for a period of 21 years or expiry date of PPL No.4) A notice of modification was issued on the 6 August 2007.
Conditions of Approval for PA 06_0291 issued by the DP&E	4 September 2008 (for a period of 21 years or expiry date of PPL No.5) The following modifications have been issued to this PA: - modification dated 7 January 2011 - modification dated 20 April 2011
Conditions of Approval for Concept Plan Approval 06_0292 issued by the DP&E	4 September 2008 (for a period of 5 years)
Environment Protection Licence No.12003, issued by the Environment Protection Authority (>0.5 – 6PJ Produced)	Issued 22 December 2004, anniversary date 22 December. During the reporting period, the licence was varied on 01 December 2016 (Notice #1547193).
Petroleum Operations Plan (POP)	06 March 2017 – 30 June 2018
Pipeline Licence No.30, issued by Department of Energy, Utilities and Sustainability, under NSW *Pipelines Act 1987*	19 May 2004 (for a period of 20 years)
Water Monitoring Bore Licence no. 10BL604845 (relating to Lot 23/585290), issued by NSW Office of Water (now DPI Water)	6 July 2011 in Perpetuity
Water Monitoring Bore Licence no. 10BL605381 (relating to Lot 23/585290), issued by NSW Office of Water (now DPI Water)	31 May 2013 in Perpetuity

Title	Grant Date and Term
Water Monitoring Bore Licence no. 10BL605366 (relating to Lot 10/1022204), issued by NSW Office of Water (now DPI Water)	08 May 2013 in Perpetuity
Water Monitoring Bore Licence no. 10BL605472 (relating to Lot 1/790254), issued by NSW Office of Water (now DPI Water)	12 November 2013 in Perpetuity
Water Monitoring Bore Licence no. 10BL605581 (relating to Lot 35/230946), issued by NSW Office of Water (now DPI Water)	17 June 2014 in Perpetuity
Water Access Licences, (WAL25054, WAL24856, WAL24736 and WAL24965) and associated Works and Use Approvals	Various

3.1.1. SafeWork NSW Notification of Storage of Hazardous Chemicals

There is no requirement to notify SafeWork NSW regarding the storage of Hazardous Chemicals (Dangerous Goods) at the RPGP due to the minor quantities of Hazardous Chemicals stored on site.

4. Operations within the Reporting Period

This section provides a description of the operations undertaken for the CGP for the reporting period and the status as of June 2017.

4.1. Description of Operations from July 2016 to June 2017

4.1.1. Development / Construction

During the reporting period development associated with the CGP comprised of the following:

Drilling

No new wells were drilled in this reporting period.

Decommissioning

Decommissioning of two wells (RP04 and RP11) was completed. Decommissioning of a further two wells (RP03 and MT10) continued and was completed after this reporting period. Decommissioning was carried out in accordance with the 'NSW Code of Practice for Coal Seam Gas Well Integrity'.

The locations of the existing wells and the decommissioned wells are illustrated in Appendix C.

Gathering Line Installation

No new sections of gas gathering line were installed this reporting period.

Workover Maintenance Activities

The following workover activities took place during this reporting period.

Table 4-1: Description of Workover Maintenance Activities

PPL	Well Name	Date Workover Conducted	Description of Activities
PPL4	MT05	Feb/ Mar 2017	Clean out well
PPL4	MP22	Mar/ Apr 2017	Clean out well
PPL4	MP02	Apr/ May 2017	Clean out well
PPL5	MP10	May 2017	Clean out well

Rosalind Park Gas Plant Compressors

The RPGP compressors operated during the reporting period for:

- Compressor No.1 operated for 7159 hours;
- Compressor No.2 operated for 5743 hours; and
- Compressor No.3 operated for 4672 hours.

Land Access and Approvals

The EPL 12003 was varied on one occasion within the reporting period. Table 4-2 identifies the details of the licence variation.

Table 4- 2: EPL 12003 variations (FY17)

Variation Number / Date		Material Effects of Licence Variation
Variation dated 01 December 2017 (notice #1547193)	-	Special Condition E1, Environmental Improvement (EIP) 8 and EIP 9 removed from EPL.

No new Development Applications have been applied for or Development Consents granted in this reporting period.

DA 282-6-2003-i was modified on 27 March 2017 to delete conditions 48, 49, 51, 54, 55, 58, 68, 72, 103 and 104 of Schedule 4, conditions 12, 13, 14 and 15 of Schedule 4, Schedule 6, and Schedule 8.

Current Status of Well Operations

The status of CGP well operations as of 30 June 2017 is summarised in Appendix D. The only amendment from the previous reporting period is the decommissioning of two wells, RP04 and RP11.

4.1.2. Exploration

AGL relinquished Petroleum Exploration Licence 2 in July 2015. No exploration activities were undertaken during this reporting period and there will be no further exploration activities across the CGP.

4.1.3. Production

Production information is provided to the DRG on a monthly basis. These monthly production reports include monthly production volumes from each well in the PPLs and total gas flow rates into the RPGP.

4.1.4. Land Preparation

No wells were drilled during this reporting period.

Decommissioning of two wells, RP04 and RP11 was completed in the reporting period. Decommissioning of a further two wells, RP03 and MT10 was continued during the reporting period, and completed after the reporting period. Rehabilitation works have been completed in consultation with the DRG and EPA.

4.1.5. Mining, Mineral Processing and Ore Production Stockpiles

The CGP produces coal seam gas. No mining, mineral processing or ore stockpiling is undertaken. Hence, this section is not applicable to AGL's operations at the CGP.

4.1.6. Other Infrastructure Management

During the reporting period works were completed to improve the storage of produced water at the RPGP. Four 70 KL above ground double walled tanks were installed at the RPGP, replacing the Flare Pit, 65 KL inground concrete tank, and 70 KL above ground frac tank. An additional liner was also installed within the existing 15 KL inground tank. These improvements will reduce the risk of loss of containment and also reduce the total volume of produced water stored on site. Tank levels are electronically recorded and communicated to the RPGP Operator via the SCADA. This provides the RPGP Operator with full visibility of tank levels to efficiently transfer and process the water and minimise stored volumes.

4.1.7. Production and Waste Summary

A summary of waste produced is included in Section 5.7.

4.1.8. Water Management

A summary of water management is included in Section 5.5 and 5.6 of this report.

4.1.9. Hazardous Material Management

A summary of hazardous material management for the reporting period is included within Section 5.8 of this report.

5. Environmental Management and Performance

This section of the AEPR outlines the environmental management and performance of the CGP for the reporting period. Where environmental monitoring is required by the Conditions of Consent for the development, the monitoring requirement and results are discussed under the relevant sections headings. The specific environmental control measures, conditions of consent or monitoring requirements are provided within each EMP Sub Plan.

This section documents the implementation and effectiveness of control strategies for environmental risks identified in the EMP and previous AEPR.

5.1. Overview of Environmental Management

CGP Environmental Management Plan (EMP)

In 2008 AGL commenced the development of a Project Environmental Management System (EMS) to manage potential environmental aspects associated with CGP activities. As part of this process an Environmental Management Plan (EMP) and Environmental Sub Plans were prepared in order to facilitate the implementation of environmental management. The EMP was revised in March 2017, improving AGL's environmental management and procedures. A full copy of the EMP and all Sub Plans is available on the CGP website.

The EMP included Sub Plans and Management plans are listed below, with plans updated during this reporting period noted accordingly:

- Noise Management (June 2017);
- Flora and Fauna Management (April 2017);
- Soil and Water Management (May 2017);
- European Heritage Management (April 2017);
- Landscape and Rehabilitation Management (April 2017);
- Aboriginal Cultural Heritage Management (December 2013);
- Air Quality Management (April 2017);
- Waste Management (April 2017);
- Traffic Management (April 2017);
- Dangerous Goods and Hazardous Materials Storage (April 2017); and
- Emergency Response (February 2017).

EMP Sub Plan Compliance Audits have been developed and progressively introduced to enable in-house compliance assessments of each Sub Plan. During the reporting period, in-house compliance assessments were completed against the following EMP Sub Plans:

- Soil and Water Management (June 2017);
- Waste Management (March 2017);
- Dangerous Goods and Hazardous Materials Storage (December 2016);
- Noise Management (December 2016);
- Flora and Fauna Management (June 2017);
- Air Quality (March 2017); and
- European Heritage (April 2017).

Pollution Incident Response Management Plan

In November 2012, AGL prepared a Pollution Incident Response Management Plan (PIRMP) for the CGP in response to an amendment to the *Protection of the Environment Operations Act 1997* (POEO Act). The PIRMP was most recently updated in December 2016.

The PIRMP details the procedures for the notification of pollution incidents causing, or having the potential to cause, material harm to the environment. The notification of environmental incidents under the PIRMP is only required for those incidents causing or threatening to result in material harm to the environment (a material harm incident) as defined in the POEO Act. During the reporting period, AGL undertook a mock drill of the PIRMP.

All other incidents deemed by AGL not to be causing or threatening to cause material harm to the environment will be managed through AGL's Emergency Response Plan and supporting procedures. In situations where notification of environmental harm is required under a condition of Camden's EPL 12003 or a development consent, AGL will report the incident to the relevant authority in accordance with the requirements of the relevant condition.

Petroleum Operations Plan

As required under PPLs 1, 2, 4, 5 and 6, AGL conducts its production operations in accordance with an approved POP.

The POP is reviewed annually, and subsequent versions are provided to the DRG for approval. The POP was revised within this reporting period. Version 10 of the POP applies to the period 06 March 2017 through to 30 June 2018, which was approved by the DRG in March 2017.

The POP summarises the general processes and stages of petroleum operation at the CGP. The sections of the POP are summarised below, and where applicable, referenced to relevant sections of this AEPR.

Table 5-1: POP Commitments Referenced in this AEPR

POP Section	Aspect of Operations	Petroleum Activity	Relevant AEPR Section(s)
2.1	Production Operations	Construction	4.1.1
		Production	4.1.3
		Maintenance (Workover)	4.1.1
		Produced Water Management	5.6
		Rehabilitation and Final Closure	6.1 – 6.6
2.2	Surface Infrastructure	Wells	4.1.1; 4.1.2; Appendix D
		Gas Gathering Lines	4.1.1

POP Section	Aspect of Operations	Petroleum Activity	Relevant AEPR Section(s)
		Access Roads	6.1.4
		Gas Plant	4.1.1
3	Environmental Management and Rehabilitation	Rehabilitation	6.1 – 6.6

5.2. Actions Required by Regulatory Authorities from Previous AEPR Review

The EPA provided comments to the DRG on the 2015-16 AEPR on 03 January 2017. These comments were forwarded to AGL on 06 February 2017. AGL responded to the EPAs comments on 28 February 2017.

The DRG responded to the 2015-2016 AEPR on 05 July 2017, advising that the AEPR was to the satisfaction of the Secretary of the DP&E.

5.3. Air Pollution

5.3.1. Air Pollution management

Air emissions associated with the CGP are primarily oxides of nitrogen (NO_x) and oxides of sulphur (SO_x) associated with compression of the coal seam gas, and to a lesser extent vehicle emissions. Other air emissions include potential dust emissions associated with construction activities and vehicle movements and fugitive emissions from production operations.

During the reporting period, two air compressors were installed at the RPGP to provide compressed air as a replacement to methane to operate much of the instrumentation equipment. This is a positive outcome as the use of air compressors to supply instrument air eliminates the need for AGL to use methane and contributes towards reducing fugitive emissions.

Management of air emissions is summarised in the CGP Air Quality Management Sub Plan (AQMSP). The objective with regards to air quality is to prevent or minimise air pollution by:

- Controlling the quality and minimising the quantity of air emissions associated with compression of the coal seam gas resource;
- Minimising the quantity of vehicle exhaust emissions;
- Minimising dust generation during construction, maintenance and operations and rehabilitation activities; and
- Reporting uncontrolled air emissions and implementing corrective actions promptly.

Targets relating to air quality management are identified in the AQMSP as follows:

- Zero exceedances of the in-stack and ambient licence limits to controlled air emissions.
- Zero incidents or complaints received regarding uncontrolled air emissions.

Control measures used to meet the objectives for air quality are contained in the CGP AQMSP.

5.3.2. Air Quality Criteria and Monitoring Requirements

Rosalind Park Gas Plant – DA-282-6-2003-i

Development Consent DA-282-6-2003-i, Schedule 4 CoC 47, 48, and 58 specifies requirements to monitor air quality for the production area and air emission criteria. These requirements are as per the EPL No. 12003 (with the exception of CoC 47 which is not a requirement of the EPL).

DA 282-6-2003, Schedule 5, CoC 12 and EPL 12003 (L2) stipulate load limits for assessable pollutants that must not be exceeded during the reporting period from the RPGP.

Construction and Field Operations – Dust

A number of development consents stipulate requirements relating to dust management. These are detailed in the AQMSP.

5.3.3. Air Quality Monitoring Results

Quarterly monitoring reports for the RPGP were prepared by Ektimo:

- Quarterly Stack Emission Survey, 28 and 30 September, 05 October 2016;
- Quarterly Stack Emission Survey, 06 and 07 December 2016;
- Quarterly Stack Emission Survey, 23 and 24 March 2017; and
- Quarterly Stack Emission Survey, 06 June 2017.

Monitoring results for the 2015-16 Annual Return period are provided in Appendix H. All quarterly monitoring results were compliant with the licence concentration limit conditions of the current EPL 12003 for this period.

Rosalind Park Gas Plant – Air Emissions at Residences (Schedule 4, CoC 47)

Ektimo undertook emission testing at the RPGP in accordance with the air pollutant criteria stipulated in DA 282-6-2003-I, Schedule 4, CoC 47.

Nitrogen Dioxide, Sulphuric Acid Mist and Sulphur Dioxide concentrations were measured at the emission points and compared to the input data used in the modelling for the air impact assessment. The testing confirmed compliance with input data used in the modelling for the air impact assessment and therefore compliance at the nearest residence during this reporting period.

Rosalind Gas Plant – Assessable Pollutants and Air Concentration Limits

Under EPL 12003 for the RPGP, AGL is required to meet load limits for assessable pollutants plus calculate the annual pollutant loads and associated fees. Monitoring to enable the annual pollutant loads to be calculated was conducted quarterly by Ektimo and continuously by AGL with the results included in the 2015-2016 Annual Return (summarised in Appendix H and Appendix I). In addition to this, the EPL requires the monitoring of air concentration levels at discharge points for which the concentration of the pollutant must not exceed, which is monitored quarterly and continuously.

No exceedances of the pollutant load limits, or exceedances of air concentration limits, were reported within the 2015-2016 Annual Return.

Rosalind Park Gas Plant – Continuous Monitoring

The EPL 12003 Condition M2.3 and DA-282-6-2003-i Schedule 4 CoC 58 require continuous monitoring of NOx, temperature, moisture, flow rate, and oxygen at Points 1, 2 and 3 at all times when the compressors

are operating. No exceedances of the limits identified in EPL 12003, Condition L3.1, were identified in continuous monitoring monthly reports during the period.

National Pollutant Inventory Reporting

The National Pollutant Inventory (NPI) Report for the RPGP for the 2016-2017 financial year was prepared and submitted on 28 September 2017. The NPI lists the fuel and energy usage plus emissions data for the RPGP for the financial year.

Construction and Field Operations – Dust Monitoring

During construction and field operations, various measures are implemented to avoid or ameliorate dust generation including reduced travelling speeds on unsealed roads and use of water carts to suppress dust. Visual assessment of dust conditions are undertaken by site personnel during construction and field operations.

No complaints were received regarding dust during the reporting period.

5.3.4. Air Pollution Environmental Performance / Trends

RPGP Quarterly Stack Emissions Monitoring

Quarterly stack emissions monitoring results were compliant with the licence concentration limits of EPL 12003 and Development Consent DA-282-6-2003-i, Schedule 4 CoC 48 for this reporting period. Air emission monitoring methodology complies with EPL 12003 Condition M2.2.

RPGP Assessable Pollutant and Air Concentration Limits

The following pollutants are assessable emissions from the RPGP for which limits of the pollutants annual load or its air concentration is stipulated by the EPL 12003. The annual assessable pollutant loads are calculated and reported within the EPL Annual Return.

The assessable pollutants and air concentration limits for this reporting period are:

- **Benzene** - Benzene is an assessable pollutant, measured annually in order to calculate the annual pollutant loads and associated fees under EPL 12003. For the 2015-2016 Annual Return the calculated annual load for benzene was 9.122 kg/year, which is well below the limit of 47 kg/year as required by EPL 12003. This represented an increase from the previous Annual Return reporting period where 0.545 kg/year was calculated and is less than the annual load estimation of 42.5 kg/year as predicted in the RPGP Environmental Impact Statement (EIS).

- **Benzo(a)pyrene (equivalent) -** Benzo(a)pyrene air emissions are an assessable pollutant and are measured annually in order to calculate the annual pollutant loads and associated fees under the EPL 12003. For the 2015-2016 Annual Return, the calculated annual load for Benzo(a)pyrene was 0.0 kg/year, which is less than the annual load limit of 0.27 kg/year as required by EPL 12003. There was a slight decrease from the 0.00000186 kg/year reported in the 2014-2015 Annual Return reporting period. This is also less than the annual load estimation of 0.24 kg/year as predicted in the RPGP EIS.

- **Fine Particulates -** Fine particulates are an assessable pollutant and are calculated annually to determine the associated fees under EPL 12003. For the 2015-2016 Annual Return, the calculated annual total load for fine particulates was 368.364 kg/year. This is less than the 460 kg/year load limit required by EPL 12003, and less than the annual load estimation of 415 kg as predicted in the RPGP EIS. It also represents an increase from the previous year's level of 51.231 kg/year.

- **Hydrogen Sulphide -** Hydrogen sulphide is an assessable pollutant and is calculated annually to determine the associated fees under EPL 12003. For the 2015-2016 Annual Return, the calculated annual load for hydrogen sulphide was 0.016 kg/year. This is less than the 1.6 kg/year load limit required by EPL 12003, and also less than the annual load estimation of 1.4 kg/year as predicted in the RPGP EIS. The results reported in the 2015-2016 Annual Return represents a decrease from the 0.788 kg/year reported for the previous Annual Return period.

- **Nitrogen Oxides -** NOx annual pollutant loads and air concentration limits are monitored on a quarterly and continuous basis. AGL has also completed additional monthly monitoring for NOx at compressors 2 and 3 when operating. For the 2015-2016 Annual Return, the calculated annual load for NOx was 16,675.99 kg/year, which is well below the licensed limit of 103,000 kg/yr. This represents an increase compared with the 5,365.092 kg/year reported in the 2014-2015 Annual Return. The NOx annual load reported in the 2015-2016 was also much less than the predicted assessable load of 93,226 kg/year as stated in the RPGP EIS.

- **Sulphur Oxides** – Sulphur oxides are measured quarterly in order to calculate the annual pollutant loads and the associated fees under EPL 12003. For the 2015-2016 Annual Return, the calculated annual total load for Sulphur Oxides was 7.554 kg/yr. This is significantly less than the 3,000 kg/year load limit required by EPL 12003 and less than the annual load estimation of 2,689 kg/year for sulphur oxide emissions as predicted in the RPGP EIS. This result is higher than the results reported in the 2014-2015 Annual Return of 3.772 kg/yr.

- **Volatile Organic Compounds (VOCs) –** VOCs discharged to air are measured annually in order to calculate the annual pollutant loads and associated fees under EPL 12003. For the 2015-2016 Annual Return, the calculated annual load for VOCs was 239.685 kg/year, which is well below the limit of 33,000 kg/year as required by EPL 12003. This result is also less than the annual load limit of 29,696 kg/year as predicted by the RPGP EIS. The 2015-2016 load result represented a decrease from the 2014-2015 Annual Return result of 759.593 kg/year.

There were no exceedances of the EPL 12003 licence limits for the assessable annual pollutant loads for the RPGP as reported within the 2015-2016 Annual Return. Assessable pollutants were also reported at below the annual load estimations as predicted in the RPGP EIS.

RPGP Continuous Air Monitoring

Non-compliance with EPL 12003 conditions O2 and M2.1 in relation to M2.3, and DA-282-6-2003-I Sch. 4, CoC 58 occurred during this reporting period as continuous monitoring for air emissions at the RPGP was not carried out for the full reporting period. Details of this non-compliance are provided within Section 9.1.1 of this report.

Due to this non-compliance, AGL did not fully meet its AQMSP target for this reporting period.

5.4. Erosion and Sediment

5.4.1. Erosion and Sediment Management

Soil types within all project areas are assessed on a regional and local scale. The aim of the assessment is to determine the impact of the existing and proposed operations on the soil groups identified within the area and assess what, if any, impacts may arise.

It has been determined that the soils and land capability within the area of current or proposed operations do not pose a significant constraint to development.

Activities that necessitate the removal of vegetation and disturbance to the soil surface have the potential to cause an increase in the effects of wind and water erosion. In order to manage the potential impacts of operations on soil and surface water, all activities that pose a potential threat to soil and or surface water are conducted in accordance with AGL's Soil and Water Management Sub Plan (SWMSP).

Management of erosion and sedimentation issues is summarised in the SWMSP. The objectives of the SWMSP are to:

- Minimise soil disturbance, prevent contamination and associated impacts on riparian corridors and native vegetation and promote and maintain soil stability throughout the life of the project; and
- Minimise negative impacts from construction and operational activities on surface water resources.

Targets relating to soil and erosion identified in the SWMSP are as follows:

- Zero complaints received from landowners or government agencies concerning land disturbance, contamination or soil stability;
- Zero incidents concerning water levels or water quality during operations.

Control measures employed to meet the objectives for erosion and sediment are outlined in the SWMSP (updated during this reporting period) of the CGP EMP.

5.4.2. Erosion and Sediment Related Activities

During this reporting period AGL's SWMSP was updated. The Sub Plan details specific sediment and erosion control measures across construction, operation and rehabilitation project phases.

5.4.3. Erosion and Sediment – Environmental Performance

Activities associated with erosion and sediment controls were compliant with regulatory requirements and the SWMSP targets and objectives for the reporting period with no community complaints received or reportable incidents recorded.

5.5. Surface Water

5.5.1. Surface Water Management

Control of water erosion is a key environmental issue requiring careful consideration and management, to avoid the reduction of surface water quality through erosion processes and subsequent siltation, and potential contamination. Control measures employed to meet the objectives for surface water are outlined in the SWMSP of the CGP EMP.

The target identified in the SWSMP relating to surface water management is as follows:

- Zero water contamination incidents from construction, operational and rehabilitation activities.

The SWMSP was updated during this reporting period.

5.5.2. Surface Water Generation Results

The CGP harvests rain water from the run off of all buildings within the RPGP. This water is stored in above ground rain water tanks and is used to service the RPGP's amenities and wash bay. Once used, the water is separately stored in in-ground tanks for grey water and septic water. A combined total of 235.5 KL of grey water and septic water was transported off site by licensed contractors for disposal at a licensed facility.

5.5.3. Surface Water Monitoring Requirements and Results

The monitoring requirements for water quality stored within the RPGP flare pit are detailed in DA-282-6-2003-I and EPL 12003. It is noted that there are no concentration limits for the specified parameters below as the water is not discharged to the environment.

The RPGP flare pond stores treated water from the RPGP, filtered produced water and direct rainfall. Analysis results for water stored within the RPGP flare pond are as follows:

- The water level in the flare pond decreased from approximately 2.2m in July 2016 to 1.5m in June 2017;
- Electrical conductivity levels ranged from 5,800 µS/cm to 11,800 µS/cm;
- Total suspended solids ranged from <5mg/L to 106 mg/L;
- Biochemical oxygen demand levels ranged from 9mg/L to 73 mg/L;
- Oil and grease results ranged from <5 mg/L to 9 mg/L;
- Total polycyclic aromatic hydrocarbons results were below the Limit of Reporting;
- Total phenols results were all <0.05 mg/L;
- Total organic carbon levels ranged from <1mg/L to 298 mg/L; and
- Total petroleum hydrocarbons ranged from 0 µg/L to 150 µg/L.

While the SWMSP outlined water monitoring requirements, AGL does not trigger the need to monitor surface water.

5.5.4. Surface Water Related Activities

During the reporting period, activities included:

- Workover of four wells;
- Decommissioning of two wells, RP04 and RP11;
- Continued decommissioning of two wells, MT10 and RP11;
- The continued operation of the RPGP; and
- Continued operation of the RPGP water treatment plant.

Rain water that is not collected at the RPGP is diverted to the site's permanent sediment control pond.

5.5.5. Surface Water – Environmental Performance

There were no surface water contamination incidents recorded or community complaints received in relation to surface water for the reporting period. Hence, AGL met its target as outlined in the SWMSP for the reporting period.

5.6. Groundwater

5.6.1. Groundwater Management

Control measures employed to meet the objectives for groundwater are outlined in the SWMSP and Groundwater Management Plan (GMP) of the CGP EMP. The objectives of the GMP are to:

- Describe the water level and water quality monitoring network across the different groundwater systems located beneath the CGP area;
- Identify water level and water quality trends that may suggest connectivity or contamination of aquifers due to CSG activities;
- Provide a monitoring (and an action response) framework for water users and regulators on the groundwater monitoring program at the CGP;
- Provide water triggers for an action plan should there be unexpected water level or water quality impacts; and
- Outline the reporting and review requirements for the monitoring program.

The roles and responsibilities for groundwater management are stated in the Groundwater Management Plan.

5.6.2. Groundwater Generation Results

During the reporting period, water was produced from CSG wells during dewatering and well workovers in Menangle Park and Mount Taurus fields. The following volumes were generated and recycled or disposed during the 2016/2017 reporting period:

- 1,730 KL of produced groundwater was generated from wells during dewatering during this reporting period. This volume is well below the licensed 30 ML (i.e. 30,000 KL) of groundwater allocated to the CGP;
- No produced water from AGL wells was reused for production operations;
- A total of 4,022.28 KL of produced water from well sites and the RPGP flare pit was recycled by AGL's licensed liquid waste contractor.

5.6.3. Groundwater Related Activities

During the reporting period, AGL has actively undertaken a number of measures in relation to groundwater management:

- Completed extensive improvements to produced water storage at the RPGP as stated in Section 4.1.6;
- A 2015-2016 Annual Groundwater and Surface Water Monitoring Report was published in September 2016;
- Water quality monitoring events were completed at selected producing gas wells as part of the groundwater monitoring network and as required by the EPL;
- Two water quality sampling events and continuous water level monitoring were completed at dedicated groundwater monitoring bores;
- The Denham Court nested groundwater monitoring site (monitoring bores RMB01, RMB02, RMB03 and RMB04) was decommissioned by AGL at the landowners request in October 2016.

AGL's Annual Bore Licence Compliance Report (2016-2017) was submitted to DPI Water after the reporting period on 28 September 2017.

5.6.4. Groundwater Monitoring Requirements

The groundwater quality monitoring requirements for six monthly and annual sampling of water quality are required by EPL 12003 Condition M2.7 and M2.8.

5.6.5. Groundwater Monitoring Results

Groundwater quality monitoring is required under Condition M2.7 of EPL 12003. The EPL requires groundwater monitoring to be undertaken at monitoring points 8-15; monitoring for some parameters is required on a six monthly basis, while others are required to be monitored annually. Results are released six monthly and are available on the CGP website. In addition, the results of the monitoring are submitted annually as a Groundwater Monitoring Report (GMR) with the Annual Return.

Of the eight monitoring points identified by the Condition P1.3 of the EPL, only four gas wells (RB10, SL02, MP22 and MP07) contained sufficient water for sampling to take place during the latest GMR period (i.e. 22 December 2015 – 21 December 2016). This is due to many of the operating wells within the CGP producing very low volumes of water. Where produced water from operating wells was sufficient for sampling and testing, salinity (measured by electrical conductivity) ranged between 8,120 and 14,600 µs/cm during the 2015-2016 period.

Full details of results of groundwater monitoring required under EPL 12003 are provided in the Produced Water Quality Monitoring Reports which are available on the CGP website.

In addition to groundwater monitoring required under EPL 12003, AGL collects data from seven groundwater monitoring bores located within close proximity to operational gas wells (within approximately 40 meters). This data is compared to data collected from previous reporting periods, and from the now decommissioned four groundwater monitoring bores (RMB site), providing additional information for assessing impacts of wellfield operation on the shallow beneficial aquifers. Results are measured on a six monthly basis and reported in the CGP Annual Bore Licence Compliance Report, which is provided to DPI Water.

The salinity (electrical conductivity) results at the shallow groundwater monitoring bores (where data was available) did not alter significantly during the 2016/17 year. Details of salinity trends from groundwater monitoring bore results are provided at Appendix L of this report.

5.6.6. Groundwater – Environmental Performance / Trends

The total volume of produced water generated has decreased from 2,573 KL last reporting period to 1,730 KL this period, representing a decrease of 48.7%. This decrease is a change in trend from last year which experienced a 19.1% increase from the previous year. The decrease reflects the ageing nature of AGL's gas wells. Approximately 90% of operating wells each produced less than 50 KL of produced water.

There was no produced water reused for well workovers during the reporting period due to the reduced number of workovers and nature of workover activities performed.

Total recycled produced water from well sites and the RPGP has decreased from 4,419.36 KL last reporting period to 4,022.28 KL this period. This decrease is due to a reduction in produced water from the well sites and a lower volume of produced water stored in the RPGP flare pit.

During this reporting period AGL was compliant with its WALs and Works and Use Approvals conditions.

Data collected from the seven groundwater monitoring bores located within close proximity to operational gas wells (within approximately 40 meters) and compared to historical data collected from a remote site with four (now decommissioned) groundwater monitoring bores (RMB site) provides additional information for assessing impacts of wellfield operation on the shallow beneficial aquifers. The salinity (electrical conductivity) at shallow groundwater monitoring bores (where data was available) did not alter significantly

during the reporting period. In addition, the water levels collected from the individual dedicated groundwater monitoring bore sites do not show any evidence of long term effects other than seasonal/climatic variations.

All groundwater analysis results collected as part of the monitoring requirements for AGL's EPL 12003 (eight gas wells requiring 6 monthly water quality monitoring) and all results collected from the seven dedicated shallow groundwater monitoring bores (MPMB01-04, GLMB01-03) are available on the CGP website.

Groundwater monitoring was undertaken in accordance with GMP requirements. There were no reportable incidents recorded or community complaints received in relation to groundwater for the reporting period, consequently AGL's objectives as outlined in the GMP have been met for the reporting period.

5.7. Waste Management

5.7.1. Waste management

The Waste Management Sub Plan (WMSP) was revised within the reporting period. The objective of the WMSP is to minimise waste generation and disposal by:

- Purchasing environmentally friendly materials;
- Implementation of reuse and recycling initiatives; and
- Ensuring that environmental impacts relating to waste management are reported and acted upon immediately.

The CGP WMSP identifies the following targets against which performance can be measured:

- Waste disposal and recycling records are accurately maintained for the Environmental Footprint Report and reviewed annually for improvement opportunities; and
- Zero non-conformances concerning waste management practices.

Control measures used to meet the objectives for waste management are outlined in the CGP WMSP (updated during this reporting period).

5.7.2. Waste Generated and Disposed/Recycled

Table 5-2 summarises the amount of waste generated, disposed and recycled during the reporting period.

Table 5-2: Waste generated and Disposed / Recycled

Waste Stream	Amount Disposed	Amount Recycled
Sewage and grey water from the RPGP site and workover rig facilities	235.5 tonnes	
General Waste	31.259 tonnes	
Produced water		4,022.28 KL
Hazardous Waste (exclusive of septic)	9.331 tonnes	
Waste Oil		5 tonnes
Coal Sludge/Workover Mud		229.87 tonnes
Scrap steel		63.341 tonnes
Batteries		0.81 tonnes
Oil filters		1.2 tonnes

Waste Stream	Amount Disposed	Amount Recycled
Paper		5.891 tonnes
Co-mingled recycling		2.751 tones

5.7.3. Waste Management – Environment Performance

AGL has maintained its process of waste disposal and recycling records over the reporting period and has met the WMSP targets for this reporting period.

5.8. Hazardous Materials

5.8.1. Hazardous Material management

AGL has developed a Dangerous Goods and Hazardous Materials Sub Plan (DGHMSP) to specifically address and manage Dangerous Goods and Hazardous Materials at the CGP. The DGHMSP was updated during this reporting period.

The main objective of the DGHMSP is to manage the purchasing, storage, transport, handling and disposal of Dangerous Goods and Hazardous Materials (including waste Dangerous Goods and Hazardous Materials) during operation, maintenance and rehabilitation activities so as to minimise the risk of impact to the environment (soil, surface water, groundwater, atmosphere).

The DGHMSP identifies the following target against which performance can be measured:

- Aim towards zero incidents resulting in Dangerous Goods or Hazardous Materials entering the environment or causing harm or injury to personnel.

5.8.2. Hazardous Materials Related Activities

AGL maintains an on-site chemicals register of all chemicals in use. The register includes Safety Data Sheets (SDS) for chemicals and appropriate emergency response and first aid provisions.

A Dangerous Goods Notification issued by Safework NSW is not required due to the small quantities of Dangerous Goods stored at the RPGP.

5.8.3. Hazardous Materials – Environment Performance

Activities associated with hazardous materials management were compliant for the period with no reportable incidents recorded or community complaints received. Hence, AGL has met the DGHMSP target for the reporting period.

5.9. Contaminated Land

5.9.1. Contaminated Land Management

No land identified as contaminated or polluted forms part of AGL CGP land holdings.

Management objectives and strategies relating to contamination or pollution are covered in the SWMSP and the DGHMSP. The objectives are to:

- Prevent contamination and associated impacts on riparian corridors and native vegetation throughout the life of the project;

- Minimise negative impacts from construction and operational activities on surface water resources; and
- Manage Dangerous Goods and Hazardous Materials during operation, maintenance and rehabilitation activities so as to minimise the risk of impact to the environment.

5.9.2. Contaminated Land Management Requirements

The prevention of contamination or pollution management includes a duty to report and manage pollution incidents in accordance with the POEO Act. The provisions of the POEO Act include a requirement for holders of EPLs to prepare, keep, test and implement a Pollution Incident Response Management Plan (PIRMP). The specific requirements for PIRMPs are set out in Part 5.7A of the POEO Act and the *Pollution of the Environment Operations (General) Regulation 2009*.

AGL completed their requirement to develop and implement a PIRMP in 2012. AGL reviewed, updated and tested its CGP PIRMP during the reporting period, in accordance with *Pollution of the Environment Operations (General) Regulation 2009.*

5.9.3. Contaminated Land – Environmental Performance

As noted at sections 5.5.5 and 5.8.3, activities were compliant for the period with no reportable incidents or community complaints associated with land contamination or pollution. Hence, AGL met the relevant Sub Plan targets for this period.

5.10. Threatened Flora and Fauna

5.10.1. Threatened Flora and Fauna Management

An assessment of flora and fauna is undertaken as part of each environmental assessment application relating to a new project development. The aim of the assessment is to determine the potential impact of AGL's operations on the local ecology and to develop suitable management practices to be applied during the project's current and future full scale operational activities. The site assessments are based on a detailed site survey of individual well sites, access routes, pipeline routes and project areas.

In general terms, AGL's selection criteria for new sites, aims to target previously disturbed areas and actively avoids areas of native vegetation or of environmental significance.

The disturbance created by the activities involved with the project is primarily limited to construction activities including ground disturbance from vehicles and drilling related equipment, pipeline trenching activities and limited land clearing for well sites.

Through careful planning the project components avoid significant flora and fauna habitats. There have been no identified significant issues that have been unable to be effectively avoided or managed during the project to date.

The EMAI is an area where preservation of significant stands of Cumberland Plains Woodland provides a breeding area suitable for numerous raptor species. During the reporting period no construction related activities were undertaken in the EMAI field.

Management objectives relating to native flora and fauna are covered in the Flora and Fauna Management Sub Plan (FFMSP). The objectives are:

Flora

- Minimise the loss of remnant native vegetation and promptly carry out rehabilitation activities.

- To promote, monitor and maintain regrowth of rehabilitated vegetation cover to ensure that it is consistent with the surrounding environment and to the satisfaction of the landowner.

Fauna

- Ensure habitat disturbance is avoided during construction and operational activities and to protect fauna from physical harm.

The FFMSP identifies the following targets against which performance can be measured:

- Zero unauthorised disturbance to native flora;
- Zero complaints from landowners relating to native vegetation disturbance; and
- No injured fauna.

Control measures employed to meet the objectives and targets for flora and fauna are outlined in the CGP FFMSP.

5.10.2. Threatened Flora and Fauna – Environmental Performance

Activities associated with threatened or native flora and fauna were compliant for the period with no unauthorised disturbance to native flora, injured fauna, incidents recorded or complaints received. Hence, AGL met its target for management of Flora and Fauna during the reporting period.

5.11. Noxious Weeds Management

5.11.1. Noxious Weeds Management

Management of noxious weeds is covered under the Rehabilitation and Landscape Management Sub Plan (RLMSP) of the CGP. The objective of the RLMSP is to “prevent the introduction and dispersal of noxious weeds, pathogens and pest species”. Noxious weeds may be introduced and/or dispersed via personnel vehicles, equipment and plant.

Specific targets identified in the RLMSP for weed management are:

- Close out of identified weed issues within two weeks;
- Zero complaints from landowners relating to vegetation cover or weed growth.

Control measures employed to meet the objectives and targets for weed control are included within the RLMSP.

5.11.2. Noxious Weed Related Activities

Details of weed spraying including dates, areas sprayed, chemicals used, weather conditions and personnel details are maintained at the RPGP site. The following provides a summary of the date and locations of weed spraying undertaken during the reporting period:

- 15 July 2016: LB11;
- 29 August 2016: RPGP;
- 17 October 2016: LB Yard and RPGP;
- 04 November 2016: RPGP and Yard, RP07, RP08, RP10, EM12, EM13, EM14, EM21, EM22, MP25;
- 11 November 2016: SF17, SF20, EM18, EM19, Em20, EM24, EM25, EM27;
- 01 December 2016: EM15, EM13, EM21, EM10, EM08;
- 08 December 2016: SF20;
- 21 December 2016: RPGP and Yard;

- 13 April 2017: RPGP and Yard;
- 03 May 2017: GL, SF, ARTC and RP fields;
- 23 May 2017: MT05; and
- 26 June 2017: LB Yard

The main herbicides used were Di-Camba and Round Up (glyphosate). Approximately 27.9 L of herbicides were used during the reporting period.

5.11.3. Noxious Weeds – Environmental Performance

Activities associated with weed control were compliant with the targets identified in the RLMSP during this period, with no reportable incidents recorded or landholder/community complaints received.

5.12. Blasting

No blasting is undertaken as part of the project.

5.13. Operational Noise

5.13.1. Operational Noise Management

All project aspects are designed with the aim of safeguarding the amenity of surrounding residents through the proper management of noise generating activities. The assessment of noise and the design of safeguards have been carried out in conjunction with field noise studies that have been undertaken since the inception of the project.

A program of monitoring has been established at the RPGP. The purpose of the monitoring is to meet licence conditions; demonstrate compliance with licence limits; and to link potential complaints to operational procedures in order to discern those aspects of the project which may be responsible for causing a specific noise problem.

Any noise complaints are compiled and presented for discussion at the regular CCC meetings.

Objectives and targets regarding noise relating to operational activities carried out at the CGP are identified in the Noise Management Sub Plan (NMSP) of the CGP EMP, and are as follows:

Objectives:

- Comply with the operations noise criteria;
- Ensure that there are no unresolved noise-related complaints from the public; and
- Implement best available practice noise management measures for Production Operation works.

Targets:

- Zero exceedances of noise criteria;
- Zero complaints received from sensitive receivers; and

Control measures employed to meet the objectives for noise are outlined in the NMSP.

5.13.2. Operational Noise Limits and Monitoring Requirements

The noise limits and monitoring requirements for the project are listed in the following Development Consents and Project Approvals.

DA 282-6-2003-i Schedule 4 Clause 40 – Annual Noise Monitoring

Noise compliance reports are submitted annually to the EPA as part of the EPL Annual Return. The DP&E receive a summary of this information as part of this AEPR. A summary of the annual report's results is provided in Appendix J.

DA 282-6-2003-i Schedule 4 Clause 41 – Quarterly Noise Monitoring

Quarterly noise monitoring in accordance with DA 282-6-2003-i Schedule 4 Clause 41 was undertaken by Wilkinson Murray at sites R1 and R7, which represent the residential premises most impacted by noise emanating from the RPGP.

Quarterly noise monitoring for this reporting period included:

- Attended noise monitoring 20 September 2016;
- Attended noise monitoring 08, 19 and 20 December 2016;
- Attended noise monitoring 27 March 2017; and
- Attended noise monitoring 14 June 2017.

Four quarterly operational noise monitoring reports were prepared for the reporting period of July 2016 to June 2017 for the RPGP.

All reports stated the RPGP to be compliant with noise limits identified in DA-282-6-2003-I.

A summary of the findings of each report is included within Appendix J.

5.13.3. Operational Noise - Environmental Performance / Trends

Operational Noise performance at the Rosalind Park Gas Plant

No noise complaints relating to operational noise from the RPGP were received during the reporting period. This trend is consistent with previous years. Noise performance is consistent with operational noise predictions in the RPGP EIS.

Operational Noise Performance – Field Monitoring

No noise complaints were received during the reporting period regarding operational noise.

Operational activities are considered compliant with operational noise targets and objectives.

5.14. Construction Noise

5.14.1. Construction Noise Management

No significant construction activities were undertaken during this reporting period, however minor earthworks associated with well decommissioning and rehabilitation were completed at wells RP03, RP04, RP11 and MT10.

Noise generating activities associated with the construction of wells, gas gathering system and access roads may include:

- Drilling of wells;
- Installation of well heads and casing;
- Hydraulic fracturing of the coal seam;
- Earth moving activities associated with construction of infrastructures i.e. drilling pads, gathering lines, access roads and rehabilitation; and
- Truck movements.

The NMSP objectives and targets regarding construction noise are listed below.

Objectives:

- Comply with the construction noise criteria;
- Minimise noise during the construction phase;
- Limit work activities (other than drilling where approved for 24 hours/ 7 days) to daylight hours between 7:00am and 6:00pm weekdays and between 8:00am and 1:00pm on Saturday. No work on Sundays or public holidays except in emergencies; and
- Implement best available practice noise management measures for construction works.

Targets:

- Zero exceedances of noise criteria;
- Zero non-conformances with construction hours; and
- Zero complaints received from sensitive receivers.

Control measures employed to meet the objectives for noise are outlined in the NMSP of the CGP EMP.

5.14.2. Construction Noise Limits and Monitoring Requirements

The noise limits and monitoring requirements are detailed in the Development Consents, Project Approvals and Modifications for the project.

5.14.3. Construction Noise Monitoring Results

As there was no significant construction works during the reporting period, and only minor earthworks associated with well decommissioning and rehabilitation were completed, no construction noise monitoring was completed.

5.14.4. Construction Noise Performance and Trends

No noise complaints were received during the reporting period regarding construction noise.

Construction activities are considered compliant with construction noise targets and objectives.

5.15. Visual Amenity

5.15.1. Visual Amenity Management

The visual impact of the well sites can be considered to be relatively low, primarily due to the small area of land surface occupied. The visual impacts of well sites are minimized further through their design, spacing and integration with the prevailing topography.

Flaring at the RPGP can result in a glow in the event that it occurs at night. The overall approach by AGL has however progressed to the point where flaring at the RPGP was minimal during the reporting period.

Management of Visual Amenity issues is covered in the CGP RLMSP. The objective of the RLMSP as regards visual amenity is to minimise the impacts to the visual characteristics of the Project area. The target set in the Plan is to achieve zero complaints from local residents relating to visual impacts.

5.15.2. Visual Amenity Monitoring Requirements

The monitoring requirements for visual amenity are detailed in DA 282-6-2003-i.

The biennial independent “Landscape and Lighting Audit Report” (Landscape and Lighting Audit) was conducted during the previous reporting period (September 2014). Based on the performance of the

landscape plantings and the findings of the September 2014 audit, the DP&E has granted AGL an exemption from commissioning an independent Landscape and Lighting Audit in September 2016. The next audit will be completed in September 2018.

5.15.3. Visual Amenity Monitoring Results

Flare Events (Schedule 4, Clause 11)

In accordance with DA 282-6-2003-i Schedule 4 Clause 11, AGL recorded the frequency and operation of the flare. The Flare event log is provided in Appendix K.

Seven flare events occurred during the reporting period and had a total duration of 959 minutes. These events occurred on 05 August 2016, 29 September 2016, 20 October 2016, 17 March 2017, 15 May 2017 and on two occasions on 30 May 2017. The duration of flaring events increased since the previous AEPR period, where four field flare events lasted 263 minutes.

Independent Audit of Vegetation and Landscape Management Plan (Schedule 4, Clause 13 and 14)

In accordance with DA 282-6-2003-i Schedule 4 Clause 13, a Vegetation and Landscape Management Plan (VLMP) was prepared, submitted and approved by the DP&E on 2 July 2004. The RPGP is maintained and monitored in accordance with the VLMP to ensure the condition of the landscaping and the effectiveness of visual mitigation measures remain adequate.

In accordance with DA 282-6-2003-i Schedule 4 Condition 14 the VLMP was independently monitored every six months for the first two years and thereafter every two years by an approved independent and suitably qualified arborist.

The DP&E has granted AGL an exemption from commissioning an independent Landscape and Lighting Audit in September 2016. The next audit will be completed in September 2018.

Independent Audit of Visual Impacts of the RPGP (Schedule 4, Clause 18)

The DP&E has granted AGL an exemption from commissioning an independent Landscape and Lighting Audit in September 2016. The next audit will be completed in September 2018.

No complaints were received relating to lighting controls during the reporting period.

Landscape Planting Plan for the relocated access road (DA Mod 2 May 2007, Schedule 4, Clause 19A and 19B)

A Landscape Planting Plan was prepared for the Rosalind Park access road and approved by the Director-General (DG) of the then Department of Planning on 21 May 2007.

Clause 19B requires that the requirements of the Landscape Planting Plan is independently audited initially within six months of completion of the landscaping and biennially thereafter. The independent audit was combined with the independent audit of the VLMP required under Clause 18 and was undertaken in September 2014. The DP&E has granted AGL an exemption from commissioning an independent Landscape and Lighting Audit in September 2016. The next audit will be completed in September 2018.

5.15.4. Visual Amenity Performance / Trends

Landscaping and Lighting

No complaints or reportable incidents were received during this reporting period in relation to landscaping or visual impacts at the RPGP for this reporting period.

During the next reporting period, AGL plans to continue the current maintenance program for on-going landscape maintenance measures through regular weed and grass control around trees and mulch where necessary to suppress grass growth.

Flare Events

Flaring events within this reporting period totalled 959 minutes in duration, which represents an increase since the previous AEPR period, where full field flare events lasted 263 minutes. This increase is due to an increased number of unscheduled plant shutdowns. Please refer to Appendix K for more information.

Summary

No complaints or incidents relating to visual amenity were recorded during the audit period. Hence, AGL has successfully met its target for visual amenity at the CGP.

5.16. Aboriginal Heritage

5.16.1. Aboriginal Heritage Management

Aboriginal cultural heritage and archaeological assessments are conducted over each new drilling program as part of the Environmental Impact Assessment process.

The conclusion from the various assessments is that the CGP area is generally considered to be of low archaeological potential. Despite this, evidence of Aboriginal occupation of the area has been identified during the surveys.

In regard to cultural heritage, the management objective is to protect and preserve cultural heritage. Control measures employed to meet the objectives for Aboriginal heritage are outlined in the Aboriginal Cultural Heritage Management Sub Plan of the CGP EMP.

The Aboriginal Cultural Heritage Management Sub Plan was updated in December 2013 by Biosis Research. This plan provides the process for on-going management of recorded aboriginal archaeological sites and identified areas of Potential Archaeological Deposit (PAD) to guide the design, location and implementation of future works within the CGP.

5.16.2. Aboriginal Heritage Related Activities

During the reporting period there were no new matters identified in relation to Aboriginal cultural heritage significance.

5.16.3. Aboriginal Heritage Management Performance

There were no activities associated with aboriginal heritage matters identified and no reportable incidents recorded or community complaints received. Hence, AGL has successfully met its target regarding aboriginal heritage at the CGP.

5.17. European Heritage

5.17.1. European Heritage Management

In terms of European heritage, the area falls within the lands originally granted to early British pastoralist John Macarthur. Accordingly, the project is located within an area associated with early European occupation and land use, particularly in regard to early agricultural expansion.

The project area is located, at least partially, within three Historic Cultural Landscapes. These areas have been classified on the basis of their landscape patterns and historical associations according to relevant and standard evaluation criteria. For the most part, project components were selected to avoid known or potential sites of non-Aboriginal or natural heritage significance.

In regard to cultural heritage, the management objective is to protect and preserve European cultural heritage.

Control measures employed to meet the objectives for cultural heritage are outlined in the European Heritage Management Sub Plan of the CGP EMP. The European Heritage Management Sub Plan was updated during this reporting period.

5.17.2. European Heritage Related Activities

No activities impacting on European heritage were carried out by AGL during the reporting period.

5.17.3. European Heritage Management Performance

No activities impacting on cultural heritage were undertaken for this period with no reportable incidents recorded or community complaints received in regards to European Heritage. Hence, AGL has successfully met its target regarding European Heritage at the CGP.

5.18. Spontaneous Combustion

Spontaneous combustion is an environmental aspect associated with coal mining and as such is not applicable to the CGP.

5.19. Bushfire

5.19.1. Bushfire Management

Operational activities have the potential to ignite bushfires through the operation of flammable fuel powered equipment, flares and / or vehicles. Flaring at the RPGP is strictly controlled to minimise any potential to start or spread a bushfire situation. This is achieved by positioning the flare in a non-hazardous location directly above a flare pond containing water and surrounding the pond adjacent to the flare with non-combustible screens.

In regard to bushfire risk, the management objectives are:

- Manage potential bush fire fuel surrounding our facilities such as grass;
- Manage the preparedness and emergency response of AGL employees for bush fires; and
- Comply with government approval license requirements that form part of AGL Camden Gas Project.

Control measures employed to meet the objectives for bushfire control are outlined in the Emergency Response Plan which has been updated during this reporting period.

5.19.2. Bushfire – Environmental Performance

During the reporting period, there were no reported bushfires on land managed by AGL.

5.20. Mine Subsidence

Mine subsidence is an environmental aspect associated with coal mining and as such is not applicable to the CGP.

5.21. Methane Drainage / Ventilation

Methane drainage/ventilation is the process associated with underground coal mining and as such is not applicable to the CGP.

5.22. Public Safety

5.22.1. Public Safety Management

Public safety is assured through compliance with:

- Operational Protocols;
- AGL Health and Safety Policy;
- Implementation of management sub plans within the EMP; and
- Site and Infrastructure Security.

5.22.2. Public Safety - Performance

During this reporting period there were no public safety related reportable incidents recorded.

5.23. Safety and Risk Management

5.23.1. Safety and Risk Management Monitoring Requirement

The monitoring requirements for incident reporting as a result of a Development Consent condition are outlined in the EMP.

5.23.2. Incident Reporting

During the reporting period a total of 41 Environmental Hazards, 9 Near Misses, and 4 Incidents were reported within AGL's incident reporting system, myHSE. 46 of these reports were assessed as 'low' risk rating; 8 of these assessed as 'moderate' risk rating; and none assessed as a 'high' risk rating level.

Each report was investigated by the responsible AGL Leader and suitable actions were implemented to avoid a recurrence.

The Environmental Hazards, Near Misses and Incidents recorded can be grouped and summarised as follows:

- Minor spills, storage and handling of liquids;
- Land management;
- Waste management;
- Storage of dangerous goods and hazardous materials;
- Compliance with reporting obligations; and
- Air emissions.

Of the four incidents reported, one incident was determined to be a non-compliance with EPL 12003 as the December 2016 Flare Pit Water Analysis Report was not prepared and uploaded to the AGL website by the due date. The Report should have been uploaded 04 January 2017, within 14 business days of the data being received. The Report was prepared and uploaded to the website 5 days late on 09 January 2017. The incident was voluntarily reported to the EPA and will be reported as a Non-Compliance in the 2016-17 Annual Return Report. AGL has investigated the incident and implemented actions to prevent a recurrence.

5.23.3. Safety and Risk – Environmental Performance

During this reporting period there were no significant safety or risk management related reportable environmental incidents recorded.

5.24. Environmental Training

During the reporting period, AGL personnel were provided with internal environmental awareness training on the following topics.

Table 5-3: Environmental Training Delivered in FY17

Title of Training	Date Delivered	Summary of training
Pollution Incident Response Management Plan (PIRMP)	22 September 2016	- What the POEO Act requires - What is 'material harm' to the environment - Objectives of the PIRMP - Scope of the PIRMP - Content of the PIRMP - What you need to do
CMO Compliance	15 December 2016	- What is CMO - Regulatory approvals - Compliance approach - CMO compliance structure

Waste Water Management	01 March 2017	- Sources of waste water
		  ○ Stormwater
		  ○ Grey water and septic
		  ○ Produced water
		  ○ Plant water
		  ○ Other waste water storages
		- Water monitoring locations
		- Responding to a spill

Operations Environmental Management Plan	26 May 2017	- What is an EMS - Purpose and structure of EMP - Activities and potential environmental impacts - Risk Management, Objectives and Targets - Structure and Responsibility - Monitoring and Reporting - EMP Sub Plans - What you need to do

Title of Training	Date Delivered	Summary of training
		- Incident escalation
Rehabilitation and Landscape Management Sub Plan	22 June 2017	- Background - Objectives and Targets - Responsibilities - Well site surface rehabilitation phases - Rehabilitation models - Key management measures - Monitoring and reporting - What you need to do

6. Rehabilitation

6.1. Rehabilitation Overview

Operations are planned such that disturbance occurs to the minimum area of land possible. Large trees and canopy areas are avoided wherever possible by careful route and site selection and all disturbed areas restored to as near as practicable their pre-existing conditions and contours. A program of planned maintenance ensures that regrowth is facilitated and weeds do not establish.

At the end of the project's life, surface infrastructure is removed prior to full site restoration being undertaken.

The environmental management objectives for rehabilitation are to:

- Promptly carry out rehabilitation activities to promote vegetation regrowth in disturbed work areas to a standard consistent with the surrounding area;
- Promote and maintain regrowth of vegetation;
- Monitor and maintain vegetation cover to ensure that it is consistent with the surrounding environment in consultation with the landowner;
- Prevent the introduction and dispersal of noxious weeds, pathogens and pest species; and
- Monitor well compounds, access roads, and gathering line routes for 12 months (or until landowner signs off) following rehabilitation to ensure that areas remain free of weeds, pathogens and pest species.

Control measures employed to meet the objectives for rehabilitation are outlined in the Rehabilitation and Landscape Management Sub Plan.

Targets identified to measure the performance of rehabilitation are listed in the Rehabilitation and Landscape Management Plan as follows:

- Close out of identified weed issues within two weeks;
- Zero complaints from landowners relating to vegetation cover or weed growth; and
- Zero complaints received from landowners relating to land disturbance or infrastructure.

6.1.1. Rehabilitation of Disturbed Land

Specific rehabilitation activities associated with the project may be subdivided into four main components:

- Wellheads;
- Gas gathering system;
- Access Roads; and
- Gas plants.

Progressive rehabilitation is an on-going management practice for all areas that have resulted in disturbance from the project. Table 6-1 lists a summary of the rehabilitation works completed since the project was commenced.

Table 6-1: Summary of project rehabilitation works complete to date

PPL	Wells Drilled (total)	Wells – Initial Rehabilitation (only)	Wells – Fully Rehab-ilitated (including P&A)	Gas Plant – Fully Operational	Gas Plant – Fully Rehabilitated	Gas Gathering Line – Fully Operational (km)	Gas Gathering Line – Fully Rehabilitated (km)
1	38	24	14	0	1	30	5*
2	5	5	0	0	0	1.5	0
4	96	88	8	1	0	68.6	0.3*
5	5	5	0	0	0	1.1	0
6	0	0	0	0	0	0	0

*denotes gas gathering lines which have been fully decommissioned including purging and removal of all surface equipment, but have been left in situ (at the request of the landholder/owner).

Rehabilitation during this reporting period consisted of a total of two fully decommissioned wells (RP04 and RP11) within PPL 4.

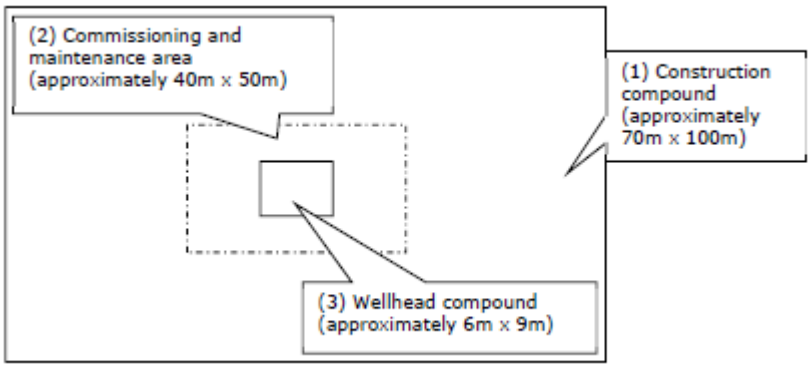
6.1.2. Well Sites

All well sites are located in cleared farmland or in areas clear of native vegetation, with additional clearing being minor or not required.

Rehabilitation of well surface locations is undertaken in stages. These include:

- Initial rehabilitation of surplus construction footprint following completion of the well drilling and construction phase to the commissioning and maintenance area (refer to stages 1 to 2, Figure 6-1);
- Further rehabilitation of the commissioning area to the production compound would occur when the well(s) have reached steady state production (refer to stage 2-3, Figure 6-1); and
- Final rehabilitation of well sites following closure of the wells.

Figure 6-1: Well Site Progressive Rehabilitation Stages



Long-term operation of the wells requires the retention of a cleared area around each wellhead (indicated as stage 3 in Figure 6-1). The disturbed area outside of the on-going operational area of the well is rehabilitated in the following manner:

- Backfilling excavated areas such as drill pits which are no longer required as part of operation; and
- Rehabilitation, contouring, and revegetating disturbed areas surrounding well surface locations using stockpiled soil.

Upon depletion of the field, the wells are to be decommissioned in accordance with the requirements of the NSW Code of Practice for Coal Seam Gas Well Integrity and all surface structures removed.

The final stage rehabilitation works typically include:

- Preparing Site Specific Rehabilitation Completion Criteria for each well site in consultation with the DRG and EPA;
- Removing plant and equipment from well surface locations and removal of fenced compounds;
- Filling in excavated areas and trenches;
- Sealing/ decommissioning of wells in accordance with NSW Code of Practice for Coal Seam Gas Well Integrity;
- Lightly ripping disturbed areas;
- Rehabilitation, contouring, and revegetating disturbed areas;
- Undertaking quarterly inspections of rehabilitated wells until the Site Specific Rehabilitation Completion Criteria has been fully satisfied and the landowner signs off on the rehabilitation works; and
- Final site inspection with EPA and DRG to assess that the rehabilitation works have fully satisfied the Site Specific Rehabilitation Completion Criteria.

Quarterly inspections were undertaken at rehabilitated wells LB07, MH01, and RP11 throughout the reporting period. Rehabilitation works progressed well towards achieving the Site Specific Rehabilitation Completion Criteria and only minimal weed control and additional seeding was required across the sites. Site Specific Rehabilitation Completion Criteria was achieved at LB07 and MH01 wells during the reporting period. Further details are provided in Appendix D.

Decommissioning works commenced at a further two wells (RP03 and MT10) but was not completed within this reporting period. Hence, rehabilitation of these wells did not commence during this reporting period.

6.1.3. Gas Gathering System

Rehabilitation of the gas gathering system occurs at the time of construction.

Upon depletion of the field and the completion of the CGP, the preferred method for final rehabilitation of the gas gathering system would be to purge with air or water to remove remaining gas, seal and leave the valuable infrastructure in position for future beneficial use and to prevent any further environmental disturbance. All gas gathering line marker posts would be removed from the surface.

The rehabilitation method for the gas gathering lines would be subject to consultation with the landowner. Should removal of the gas gathering system be required, the excavated trench would be backfilled and rehabilitated, including contouring and revegetation, the same as the initial rehabilitation following installation of the gathering lines.

6.1.4. Access Roads

Private roads and tracks used during operations will be returned to their pre-operations state, or to a condition agreed by the landholder. As new roads are provided, requirements for, and location of access roads may vary. AGL will work with this to adapt to the evolving nature of road development and access provision in the locality.

No new access roads were constructed or required rehabilitation during this reporting period.

6.1.5. Buildings and Auxiliary Facilities

The provision of offices and auxiliary services for the CGP operations of AGL are located at the RPGP site. There was no rehabilitation of buildings and auxiliary facilities during the reporting period.

6.1.6. Other Infrastructure

Rehabilitation of other infrastructure is not required as part of the CGP.

6.2. Rehabilitation Trials and Research

AGL conducts its operations in areas of extensive previous rural use. It avoids wherever possible stands of remnant native or regrowth native flora at the planning stage. As such AGL rehabilitation processes primarily only require the re-establishment of pastureland.

During this reporting period AGL did not undertake or participate in any rehabilitation research or trials.

6.3. Further Development of Final Rehabilitation Plan

In February 2016, AGL announced that it will progressively decommission wells and rehabilitate sites at the CGP prior to ceasing production in 2023. Once production ceases, the wells which are still operational at that time will be decommissioned and the well sites fully rehabilitated. During the next reporting period, AGL will continue planning work for site closure. Site closure is a continuous series of activities undertaken throughout the life of a project, and it is important that these activities occur in a systematic and cost-effective manner. AGL recognises that early planning will ensure that the closure of operations is

technically, socially and economically feasible, and will result in a more satisfactory environmental outcome.

6.4. Rehabilitation Activities Proposed in Next AEPR Period

Planned decommissioning and rehabilitation activities during the next AEPR reporting period will include RP03, RP05, RP06, MT09, MT10, EM16, LP01, JS01, JS03, JS04 well sites.

6.5. Further Improvements

Over the forthcoming reporting period, AGL will continue to develop the CGP in accordance with the CGP EMS and AGL's Health, Safety and Environment Management System which is based on ISO 14001: 2004.

6.6. Closure Plan

In February 2016, AGL announced that it will progressively decommission wells and rehabilitate sites at the CGP prior to ceasing production in 2023. Once production ceases, the wells which are still operational at that time will be decommissioned and the well sites fully rehabilitated. AGL will continue planning for site closure and progressively decommission each well in accordance with the NSW Code of Practice for Coal Seam Gas Well Integrity as each well reaches the end of its production. Details of wells planned to be decommissioned will be provided to the DRG annually within the POP.

7. Project Commitments Register

To meet AGL's ongoing commitment to compliance of relevant regulatory requirements AGL continued its development and use of the CMO system relating to the CGP. CMO has also been used successfully for tracking progress with corrective actions arising out of internal and independent audits. CMO includes project commitments relevant to the CGP.

8. Stakeholder Engagement

This Section of the AEPR describes stakeholder engagement that has been undertaken during the reporting period.

8.1. Environmental Complaints

8.1.1. Stakeholder Management

A complaint handling procedure has been established for the CGP operations. AGL has a 24 hour contact telephone number (1300 799 716) which allows the community to raise issues or concerns that relate to the operations of the Project.

This number is included on signs at property entries and well site compounds as well as on notifications to landowners.

Complaints are entered into a complaints database which triggers AGL personnel to undertake an investigation. Relevant site personnel are also notified to resolve issues and to make them promptly aware of the concern.

Resolution details are communicated directly to the complainant and are presented at the next CCC meeting.

8.1.2. Complaints Register Requirements

This section provides a summary of the environmental complaints received and management actions taken to address issues. The requirement for a complaints register to be maintained and complaints' actions is outlined in the following Development Consents as well as the EPL 12003 for the RPGP:

- DA 246-8-2002-I Schedule 3, Clause 15;
- DA 282-6-2003-i Schedule 5, Clause 19;
- DA 15-1-2002i Schedule 3, Clause 29; and
- DA 75-4-2005 Schedule 2, Clause 59.

The requirements detailed in the above Development Consents are similar with only minor differences in wording between the different approval documents.

In summary, the Development Consents require the applicant to record details of all complaints received in an up to date register and record but not necessarily limited to the following:

a) *the date and time, where relevant of the complaint;*

b) *the means by which the complaint was made;*

c) *any personal details of the complainant that were provided, or if no details were provided, a note to that effect;*

d) *the nature of the complaints;*

e) *any action(s) taken by the Applicant in relation to the complaint, including any follow-up contact with the complainant; and*

f) *if no action was taken by the Applicant in relation to the complaint, the reason(s) why no action was taken.*

The Complaints Register shall be made available for inspection by the EPA or the Director-General upon request. A record of the complaint must be kept for at least 4 years after it was made.

8.1.3. Summary of Environmental Complaints

No community complaints regarding environmental concerns were received during this reporting period.

8.1.4. Complaint Trend

The number of complaints received in the 2016 – 2017 reporting period was consistent with the previous reporting period.

8.2. Community Consultative Committee

8.2.1. Monitoring Requirement

The requirement for a CCC is outlined in the following Development Consents:

- DA 246-8-2002-I Schedule 3, Clause 31;
- DA 282-6-2003-i Schedule 5, Clause 17;
- DA 15-1-2002i Schedule 3, Clause 90;
- DA 75-4-2005: Schedule 2 Clause 61;
- PA 06_137: Schedule 4, Clause 8;
- PA 06_138: Schedule 4, Clause 8; and
- PA 06_0291 Schedule 4, Clause 8.

The requirements detailed in the above Development Consents are similar with only minor differences in wording between the different approval documents.

In summary, the Development Consents require that a CCC is established to oversee the environmental performance of the development. This Committee shall:

> *a) be chaired by an independent chairperson approved by the Director-General in consultation with the Applicant, Wollondilly Council and Camden Council;*
>
> *b) have four community representatives residing in the PAL 1 area;*
>
> *c) have one representative from each council;*
>
> *d) two representatives appointed by the Applicant (including the environmental officer);*
>
> *e) two (2) representatives from a recognised environmental group;*
>
> *f) meet at least quarterly;*
>
> *g) take minutes of the meeting; and*
>
> *h) make comments and recommendations about the implementation of the development and environmental management plans, monitor compliance with conditions of this consent and other matters relevant to the operation of the development during the term of the consent.*

Representatives from relevant government agencies or other individuals may be invited to attend meetings as required by the Chairperson.

8.3. Community Engagement

AGL has pro-actively engaged with the community in order to keep residents informed of the CGP and ensure that community interests are listened to and addressed. AGL has raised awareness of its activities and created a strong relationship with the community through a range of community engagement initiatives which include:

- Employment of a permanent Community Relations Manager for the CGP;
- Consultation with affected landholders;
- Hosting community member and industry stakeholder site tours and information sessions;
- Listening to and addressing community concerns through monitoring initiatives and studies;
- Participation in community events;
- Volunteering with local initiatives;
- Ensuring the AGL Camden Website is regularly updated; and
- Distributing community consultation material at local events.

A considerable amount of consultation has taken place directly with each landowner. This has ensured that their interests can be quickly understood and specifically addressed.

The CCC was formed in early 2003. The purpose of the committee is to provide a forum of open discussion between AGL and the community. It is aimed at facilitating good working relationships among committee members and to act as a channel to assist AGL in improving communication, education and notification within the general community.

The committee consists of:

- Chairperson;
- Camden Council;
- Campbelltown City Council;
- Wollondilly Shire Council;
- Five Community Members; and
- Two AGL Members.

AGL plans to continue to pro-actively engage the community for the duration of the project.

8.3.1. Community Consultative Committee (CCC)

CCC meetings were undertaken on the following dates:

- No. 48: 21 September 2016;
- No. 49: December 2016 (No meeting, quarterly update provided); and
- No. 50: 22 March 2017.

CCC meeting minutes and presentations are made available on the CGP project website once they have been accepted by the CCC within three weeks of the meeting (as per the NSW Department of Planning & Environment *Community Consultative Committee Guidelines*, November 2016). During the reporting period, the CCC agreed to reduce the meeting frequencies from quarterly to twice per year. In addition to this, AGL will provide project updates in electronic format each quarter when CCC meetings are not held.

The following table outlines a summary of actions arising from meetings and their current status at the time of this document's publication.

Table 8-1: CCC Meeting Action Items (1 July 2016 to 30 June 2017)

Action Item	Responsible	Status
Meeting 48 21 September 2016		
Provide GIS coordinates of well locations.	AGL	Completed
Provide compliance statement link to the CCC.	EPA	Completed
Meeting 50 22 March 2017		
Chair to contact Council on new representative.	CCC	Completed
Invitation to provide feedback to AGL on Community Engagement Policy, Community Complaints Framework and Community and Stakeholder Engagement Plan.	CCC	Completed
Share methane emissions study with CCC	EPA	Completed

Note – Meeting 49 was replaced with a quarterly project update distributed by AGL electronically to CCC.

8.3.2. Other Consultation and Community Support

The following consultation processes have also been undertaken during this reporting period:

- Community Consultative Committee meetings;
- Platinum Sponsor of Narellan Chamber of Commerce;
- Attendance at Narellan Chamber of Commerce meetings;
- Email updates to Camden, Wollondilly and Campbelltown Local Governments;
- Email and phone updates to local State Members of Parliament in the project area;
- Email and phone updates and face to face briefings to local Federal Member for Macarthur, Dr. Mike Freelander;
- AGL's Camden Website updated regularly www.agl.com.au/camden
- Regular project updates and advertorials placed in the Macarthur Chronicle, Wollondilly Advertiser and Camden-Campbelltown Advertisers to update the community on the project;
- Major supporter and sponsor of community event – Christmas in Narellan (November 2016); and
- Sponsorship of local organisations and charities including Outdoor Movies @ Menangle, Camden Show, Youth Solutions and Macarthur Disability.

8.4. Site Visits

During the reporting period, the following site visits were completed:

- EPA site inspections to producing well sites;
- EPA and DRG site inspections to rehabilitated well sites; and
- Environment Update Meeting with EPA, DP&E and DRG.

9. Summary of Environmental Non-Compliance Issues and Actions

9.1. Identification of Environmental Non Compliance Issues

This section describes the performance of the CGP against AGL's environmental regulatory requirements (listed in Section 3.1 of this AEPR). AGL reviews its environmental regulatory requirements through the following process:

- Review during EPL Annual Return process;
- Weekly CMO review;
- Annual revision of the CGP EMP (and Sub Plans, as required);
- Independent Environmental Audits undertaken biennially; and
- Regulatory audits and inspections completed during the reporting period.

This section provides a summary of the environmental non-compliances identified during this reporting period.

9.1.1. Annual Return

Non-conformances with EPL 12003 are reported in the Annual Return to EPA. The Annual Return for EPL 12003 for the period of 22 December 2015 to 21 December 2016 was submitted to the EPA on 03 February 2017 in accordance with the EPL.

There was one non-compliance with the EPL reported within the Annual Return in relation to EPL 12003 Conditions O2 and M2.1 in relation to M2.3 (continuous air monitoring).

Details of the non-compliance are provided below.

Non-Compliance with EPL 12003 Conditions M2.1 and O2 – Regarding AGL not operating equipment in a proper and efficient manner for continuous air monitoring

This non-compliance relates to failing to continuously monitor air emissions at Monitoring Points 2 and 3 as required by Licence Condition M2.3. This non-compliance has also been reported in the 2011-12, 2012-2013, 2013-2014 and 2014-2015 Annual Returns, and reported in the previous AEPR.

Due to the non-compliance with EPL Licence Condition M2.3 and DA-282-6-2003-i Sch. 4 Condition 58 (requirements to undertake continuous monitoring), AGL was unable to comply with EPL Conditions O2 (requirement to maintain plant and equipment) and M2.1 (requirement to monitor pollutants using the specific sampling method).

EPL Condition O2 requires AGL to maintain and operate all plant equipment in a proper and efficient manner. As equipment failure resulted in the non-compliance for the continuous emissions monitoring system, Condition O2 could not be met.

EPL Condition M2.1 and DA-282-6-2003-i Sch. 4 Condition 58, requires all monitoring to be undertaken in accordance with the specified pollutant concentration, sample frequency and sampling method. Due to equipment failure AGL was not able to comply with the required sample frequency, and hence was not compliant. The non-compliance took place for the full Annual Return reporting period. Monitoring Point 2 and Monitoring Point 3 were non-compliant for the annual return period of 22 December 2015 to 21 December 2016 as monitoring for moisture and flow was not carried out, and monitoring was only conducted for 45 minutes of each hour. At the time of writing, Monitoring Point 2 and 3 are still not fully compliant. AGL has liaised with the EPA on this condition and completed a PRP for a Predictive Emissions

Monitoring System (PEMS) 6 month trial. AGL is negotiating with the EPA to implement PEMS as a suitable alternative to continuous emissions monitoring to predict NOx in-stack concentrations specifically for Monitoring Point 2 and 3.

As stated in Section 5.23.2, AGL will report a Non-Compliance in the 2016-2017 Annual Return for uploading the December 2016 Flare Pit Water Analysis Report five days after the due date.

9.1.2. Penalty Infringement Notices (EPA)

No Penalty Infringement Notices were issued by the EPA during the reporting period.

9.1.3. Non-Compliances Identified During Independent Environmental Audit

2010 – 2012 Independent Environmental Audit

The remaining two corrective actions from the 2010-12 IEA were completed during the reporting period. Both of these corrective actions relate to seeking a modification of development consents to provide consistency with the conditions of EPL 12003.

2012 – 2014 Independent Environmental Audit

All corrective actions were completed during previous reporting periods.

2012 – 2015 Independent Environmental Audit

During the previous reporting period, an IEA was undertaken by Golder for the period of 1 July 2012 to 30 June 2015. The audit assessed whether the CGP had complied with the relevant standards, performance measures, and statutory requirements, as outlined in CGP Project Approvals PA 06_0137, PA 06_0138 and PA 06_0291.

A summary the corrective actions from the 2012-2015 IEA, and their status at the time of writing, is provided at Appendix F.

2014 – 2016 Independent Environmental Audit

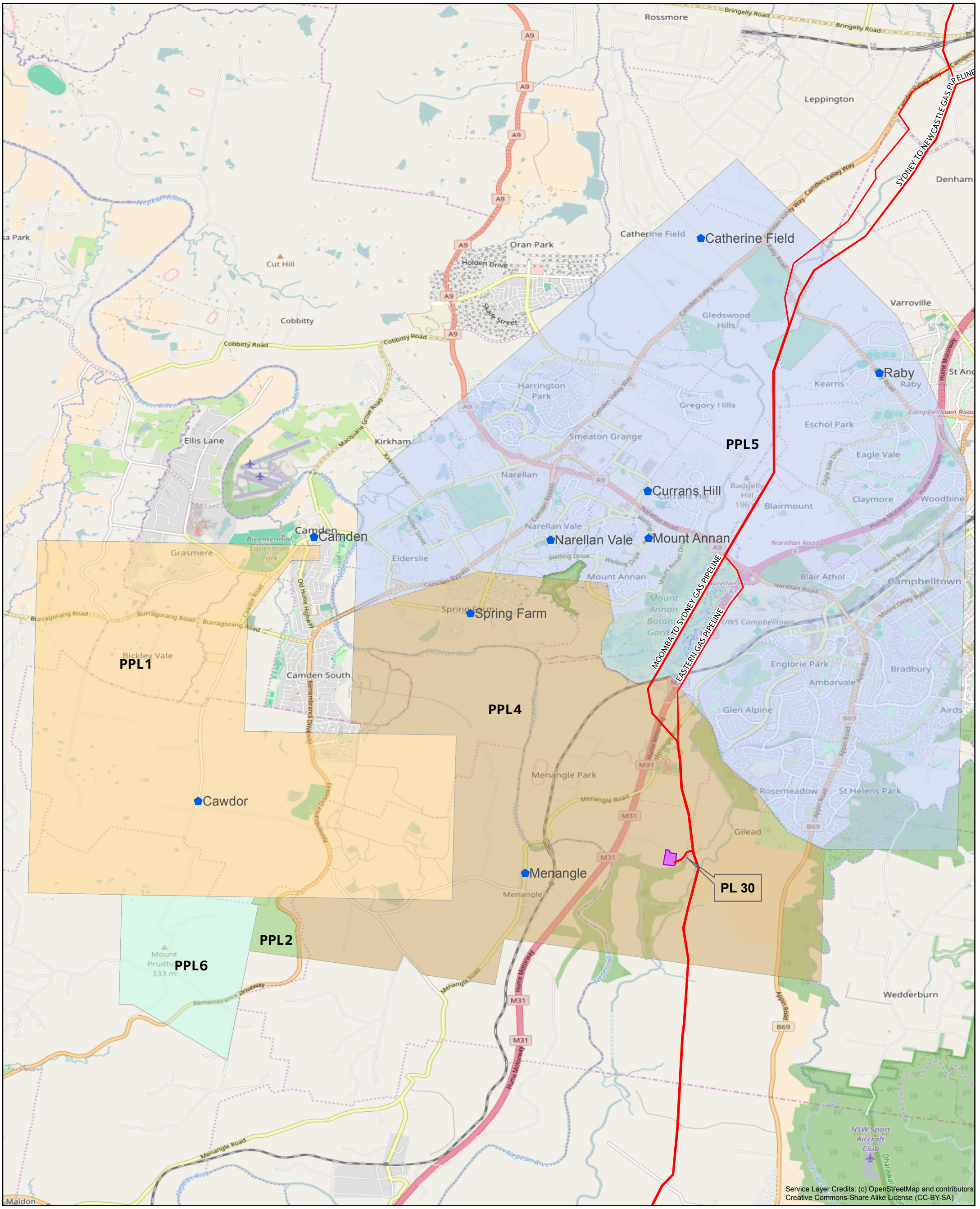
During the reporting period, an IEA was undertaken by Treo Environment for the period of 1 July 2014 to 30 June 2016. The audit assessed whether the CGP had complied with the relevant standards, performance measures, and statutory requirements, as outlined in:

- DA 15-1-2002-I (Apap, Joe Stanley, Johndilo, Loganbrae, Lipscombe and Mahon);
- DA 246-8-2002-I (Kay Park);
- DA 282-6-2003-I (RPGP, Rosalind Park, Wandinong, EMAI (EM01-20, 40));
- DA 183-8-2004-I (Mt Taurus and Menangle Park);
- DA 9-1-2005 (Glenlee Wells);
- DA 75-4-2005 (Sugarloaf Farm);
- Environment Protection Licence 12003;
- Water Access Licences (2);
- Works and Usage Approvals (2);
- Industrial bore licences (8); and
- Petroleum Production Leases (5).

A summary the corrective actions from the 2014-2016 IEA, and their status at the time of writing, is provided at Appendix G.

Appendix A. Camden Gas Project Petroleum Production Lease (PPL) Locations

Camden Gas Project PPL Locations



Energy in action™ AGL

Author: Gas Operations

Date: 18/11/2016

Ref: 1652R4

Kilometres

0 1 2 3 4

Scale 1:77,500 @A3

Legend

PPL 1 · PPL 2 · PPL 4 · PPL 5 · PPL 6 · Towns · PL 30 · Gas Pipelines · RPGP

N W E S

Appendix B. Camden Gas Project Property Details

Area	Well Numbers	Property Lot Number	Deposited Plan No.	DA No.
Apap	AP 02* & AP03*	11	664430	15-1-2002i (Mod 4 July 07)
Campbelltown Council – Menangle Park	Gas gathering system	3 7 1	236059 787284 249393	282-6-2003i (Mod 26 August 2004)
	Water storage tank	2	236059	282-6-2003i (Mod 26 August 2004)
Joe Stanley	JS 01, JS 03 & JS 04	2	14701	15-1-2002i
Johndilo	JD 01 & JD 08*	2	1200380	15-1-2002i
Johndilo	JD11	1	1180187	15-1-2002i
Lipsombe	LP 01	100	793384	15-1-2002i
Logan Brae	LB 06 & LB 09 – LB 11	6	808569	15-1-2002i
Landcom	Gas gathering system	2 X D 2	790254 378264 19853 737485	282-6-2003i (Mod 26 August 2004)
Kay Park	KP 01 – KP 03	2	594242	246-8-2002i
	KP05 & KP06	2	594242	246-8-2002i (Mod 4 July 2007 & Mod 20 April 2011)
EMAI	EM 01, EM05 - 08	11	658458	282-6-2003i (Mod 26 August 2004)
	EM 09, EM11, EM12, EM 14 - EM 17	PT1	168893	282-6-2003i (Mod 26 August 2004)

Area	Well Numbers	Property Lot Number	Deposited Plan No.	DA No.
	EM 10 & EM 13	1	726446	282-6-2003i (Mod 26 August 2004)
	EM 18-EM 20	1	130288	282-6-2003i
	EM 21 (EM 1H), & EM 22 (EM 1V)	1	1067320	9-1-2005
	EM 24-26*, 27, 29*-32	1	130288	PA 06_0138
	EM 28	1	1067320	PA 06_0138
	EM 33-35*, 36*	2	1050479	PA 06_0138
	EM 37	2	1050479	PA 06_0138 (Mod 6 August 2007)
	EM 38	1	130288	282-6-2003i (Mod 4 July 2007)
	EM 39	2	1050479	282-6-2003i (Mod 11 April 2008)
	Gas gathering system	1 1 11 PT1	130288 726446 658458 168893	282-6-2003i (Mod 26 August 2004)
Glenlee	GL 02, GL 04	22	1125616	9-1-2005
	GL 05, GL 7-GL 9	38	1098588	282-6-2003i
	GL 06	2	1076817	9-1-2005
	GL 11	22	1125616	9-1-2005
	GL 12, GL13	22	1125616	9-1-2005
	GL14, GL15	1102	883495	282-6-2003 (Mod 16 May 2006)

Area	Well Numbers	Property Lot Number	Deposited Plan No.	DA No.
	GL 16	38	1098588	282-6-2003 (Mod 16 May 2006)
	GL 17	38	1098588	282-6-2003 (Mod 11 April 2008)
	Gas gathering system	1102 38	883495 1098588	282-6-2003i (Mod 26 August 2004)
Menangle Park	MP 13-MP 17, MP25	10	1022204	183-8-2004-i
	MP30	10	1022204	183-8-2004-i (Mod 4 July 2007)
Mt Taurus	MT 01-MT 10	1	954424	183-8-2004-i
Razorback	RB 03* & RB 04*	1	959711	PA 06_0137
	RB 05*	2	572954	PA 06_0137
	RB 07	81	588337	PA 06_0137
	RB 06, RB 08 & RB 09	124	809576	PA 06_0137
	RB 10	82	588337	PA 06_0137
	RB 11 & RB 12	123	809576	PA 06_0137
Rosalind Park	RP 01*- RP 03	3	622362	282-6-2003i
	RP 02	3	622362	282-6-2003i
	RP 04-RP 07	58	632328	282-6-2003i
	RP 08, RP 09	PT35	230946	282-6-2003i
	RP 10-RP 12	2	622362	282-6-2003i

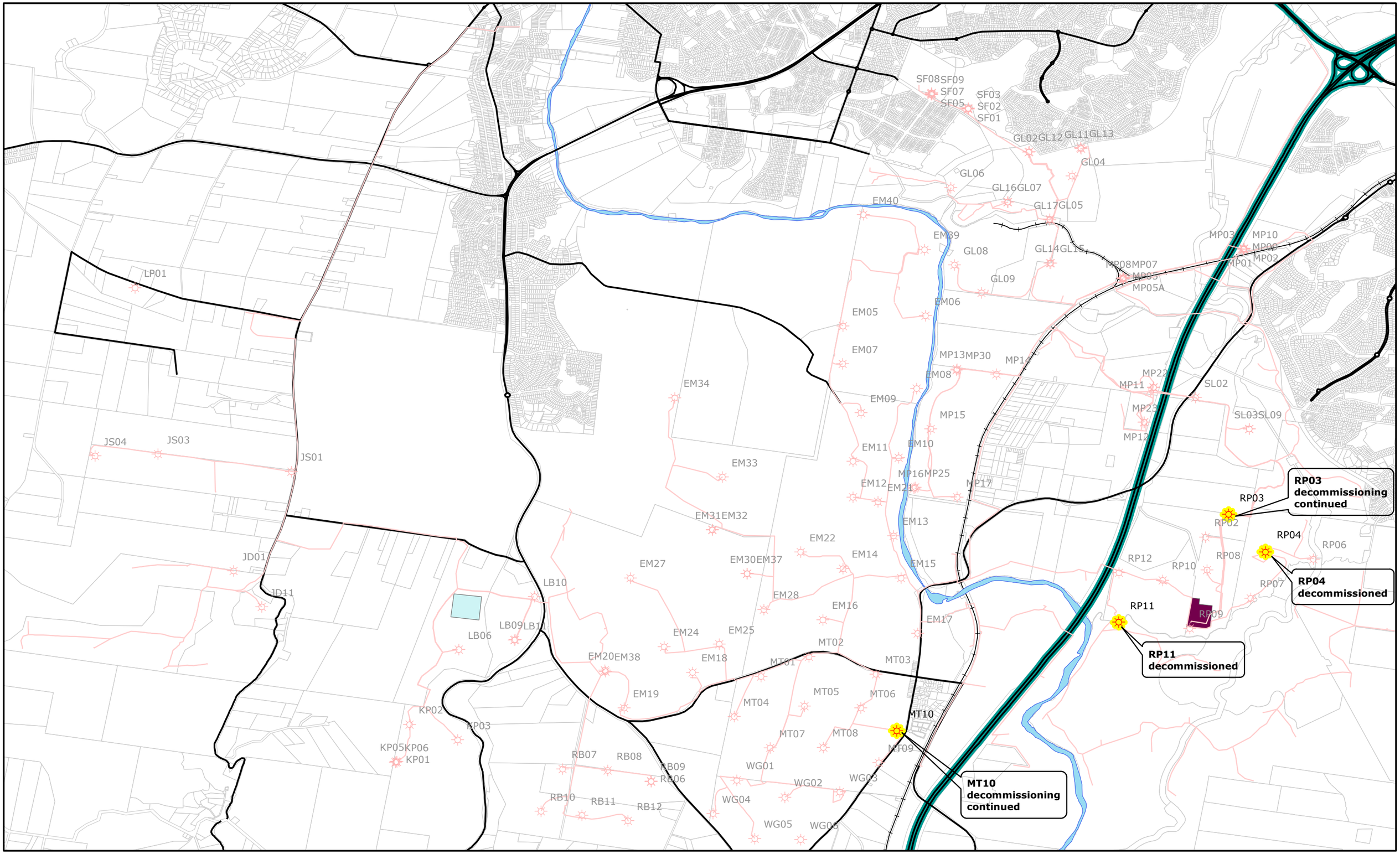
Area	Well Numbers	Property Lot Number	Deposited Plan No.	DA No.
	Rosalind Park Gas Plant	PT35	230946	282-6-2003i
	Gas gathering system	2 & 3 PT35 58	622362 230946 632328	282-6-2003i (Mod 26 August 2004)
Sugarloaf	SL 01*, SL02, SL 03	2	842735	75-4-2005
	SL 04*, SL 06*, SL 07*	3	1007066	75-4-2005
	SL 05*	2	842735	75-4-2005
	SL 08* & SL 09	2	842735	75-4-2005 (Mod 4 July 2007)
Wandinong	WG 01 – WG06	1242	1121129	282-6-2003i (Mod 26 August 2004)
	Gas gathering system	1242	1121129	282-6-2003i (Mod 26 August 2004)
Wollondilly Shire Council – EMAI and Loganbrae	Gas gathering system	Road Reserve		282-6-2003i (Mod 26 August 2004)
El Bethel*	EB 5	21	581462	DA 171-7-2005
	EB 1	201	590247	DA 171-7-2005
	EB 2, EB 3, EB 4, EB 6, EB 9	202	590247	DA 171-7-2005
	EB 7, EB 8, EB 10	203	590247	DA 171-7-2005
Spring Farm	SF01 – 03 (SF17 site), SF04A*	13	1081753	PA 06_0291
	SF05, SF07 – 09 (SF 20 site), SF10*,	1	1007608	PA 06_0291

Area	Well Numbers	Property Lot Number	Deposited Plan No.	DA No.
	Gas gathering system & access roads	13 1 4 11 2 54	1081753 1007608 1007608 1081753 1076817 864754	PA 06_0291
Menangle Park	MP01 – 03, 09, 10 (MP03 site)	7	253700	PA 06_0291
	MP06*	2 X	790254 378264	PA 06_0291
	MP11	2	737485	PA 06_0291
	MP19*, MP22	8	249530	PA 06_0291
	MP21*, MP12 & MP23 (MP23 site)	1	598067	PA 06_0291
	MP04*	31	1100981	PA 06_0291
	MP05, MP05A, MP07 & MP08	1	790254	PA 06_0291
	MP33*	1	249393	PA 06_0291
	MP24*	2	236059	PA 06_0291
Menangle Park	Gas gathering system and access roads	7 2 X D 2 8 1 11 3 8 31 26	253700 790254 378264 19853 737485 249530 598067 584016 628052 253700 1100981 249530	PA 06_0291 (Mod 3 20 Apr 2011)

Area	Well Numbers	Property Lot Number	Deposited Plan No.	DA No.
		27 1 9 Book 70 Book 80 2 3 1 Menangle Road reserve 63 64 2 12 1001 1002	249530 790254 253700 No.447 No. 475 236059 236059 249393 Between rail overpass and the Nepean River Bridge 1104486 1104486 842735 249530 734435 734436	

*Wells approved but not drilled.

Appendix C. Camden Infrastructure Map for FY17



agl

Author: Gas Operations

Date: 25/10/2017

Ref: 2790R6

Camden Infrastructure Map
Work completed 2016-17

Kilometres

0 1.25 2.5

Scale 1:40,000 @A3

Geocentric Datum of Australia 1994

Sources: AGL Energy Limited, Omnilink PSMA Data, SKM

Legend

- Well decommissioned in 2016-17
- Wells
- Gathering Line
- Public Roads
- Hume Highway
- Nepean River
- Railway
- Logan Brae Yard
- RPGP
- Property Boundaries

N

Appendix D. Status of Well Operations FY2017

Changes from the previous reporting period are shaded in grey.

Current Status of Well Operations

Well Name	Date Drilling Completed	Status of Operation June 2017
AP01	2000	Decommissioned
EB01-10	Incomplete	Approved – Not Drilled (DA now expired)
EM01	Incomplete	Decommissioned
EM02 - 20	2005	Operational
EM02	2005	Decommissioned
EM03	2005	Decommissioned
EM04	2005	Decommissioned
EM21 and 22	2002	Operational
EM23	2007	Decommissioned
EM24, 25, 27, 28, 30, 31,32, 33, 34, 37, 38	2007	Operational
EM26, 29, 35, 36	Incomplete	Approved – Not Drilled
EM39	2008	Operational
EM40	2006	Operational
GL01	Incomplete	Approved – Not Drilled.
GL02, 04, 05, 06, 07, 08, 09.	2003	Operational
GL03	2003	Decommissioned
GL10	2003	Decommissioned
GL11	2005	Operational
GL12, 13, 14, 15 and 16	2006	Operational
GL17	2008	Operational
JD01 and 11	1999	Operational
JD05 and 07A	1999	Decommissioned
JD02, 03, 04, 06, 09 and 10	1999	Decommissioned
JD08	Incomplete	Approved under PEL 2 – Not Drilled
JS01, 03 and 04	1999	Operational
JS02	2000	Decommissioned
KP01, 02 and 03	2002	Operational
KP05	2008	Operational
LB01, 02, 03, 04 and 08	Incomplete	Approved – Not Drilled
LB06, 09, 10	2001	Operational
LB05 and 07	2001	Decommissioned
LB11	2007	Operational
LP01	Incomplete	Not Completed

Well Name	Date Drilling Completed	Status of Operation June 2017
MH01	Incomplete	Decommissioned
MP13, 14, 15, 16 and 17	2003	Operational
MP30	2008	Operational
MT01 02, 03, 04, 05, 06, 07, 08, 09	2004	Operational
MT10	2004	Decommissioned
Ray Beddoe Treatment Plant	2001	Decommissioned and rehabilitated (2008)
RB03, 04 and 05	Incomplete	Approved – Not Drilled
RB06, 07, 08, 09, 10, 11 and 12	2007	Operational
Rosalind Park Gas Plant	2004	Operating
RP01	Incomplete	Approved – Not Drilled
RP02, 06 – 10, 12	2003	Operational
RP04	2003	Decommissioned
RP03, 05, 11	2003	Commenced Decommissioning
SL01, SL04, SL05, SL06, SL07, SL08	Incomplete	Approved – Not Drilled
SL02 and SL03	2006	Operational
SL09	2008	Operational
WG01 – 05	2003	Operational
WG06	Incomplete	Not Completed
SF04A, 10	Incomplete	Approved – Not Drilled
MP05, 07, 08	2009	Operational
MP04, 06, 19, 21, 24, 33	Incomplete	Approved – Not Drilled
SF 01, 02, 03	2009	Operational
SF 05, 07, 08, 09	2010	Operational
MP01, 05A, 12, 23	2010	Operational
KP06	2011	Operational
MP02, 03, 09, 10, 11, 22	2011	Operational
MP25	2012	Operational

Note: Operational wells include all wells that are producing, shut-in and suspended.

Appendix E. Well Site Inspections Against Site Specific Rehabilitation Completion Criteria

Well Name	Inspection Date	Status Against SSRC	Further Action Required
LB07	03/03/16	Rehabilitation in progress	Continue to monitor
	16/06/16	Rehabilitation in progress	Continue to monitor
	05/09/16	Rehabilitation complete	Nil – ready to return to landowner
MH01	03/03/16	Rehabilitation in progress	Continue to monitor
	16/06/16	Rehabilitation in progress	Continue to monitor
	05/09/16	Rehabilitation complete	Nil – ready to return to landowner
RP11	03/05/17	Rehabilitation in progress	Continue to monitor

Appendix F. 2012-2015 Independent Audit Report – Non-Conformances Corrective Actions Register

AGL Camden Gas Project

27 October 2017

AGL Corrective Actions Register: 2012-2015 Independent Environmental Audit.

Development Consent and Condition Number	Action	Finding	Status/Target Action Date	Action Taken By AGL
PA 06_0137 Schedule 2 Condition 2 PA 06_0138 Schedule 2 Condition 2 PA 06_0291 Schedule 2 Condition 2	A copy of each source document should be made available within CMO.	Compliance – Improvement Opportunity	Complete	All available source documents for the three Project Approvals have been uploaded to CMO.
PA 06_0137 Schedule 2 Condition 7 PA 06_0138 Schedule 2 Condition 7 PA 06_0291 Schedule 2 Condition 10	Confirm the required process for surrendering approvals with the Department of Planning and Environment (DP&E).	Compliance – Improvement Opportunity	Complete	Process for surrendering approvals has been confirmed with the DP&E.
PA 06_0137 Schedule 4 Condition 7 PA 06_0138 Schedule 4 Condition 7 PA 06_0291 Schedule 4 Condition 7	Review and update Environmental Management Plan and submit to DP&E within 6 months of completing this audit	Non Compliance – Level 2	Complete	The Environmental Management Plan was reviewed and updated and sent to the DP&E on 6 April 2016.
PA 06_0291 Schedule 2 Condition 15	Work with the EPA to complete all actions prescribed within the Penalty Infringement Notice.	Non Compliance Level 2	Complete	AGL has now completed all actions prescribed within the Penalty Infringement Notice.
PA 06_0291 Schedule 3 Condition 5	Undertake all works in compliance with operational noise criteria.	Compliance – Improvement Opportunity	Complete	AGL has prepared and implemented an internal Compliance Audit process to regularly assess performance against the Noise Management Sub Plan, including operational noise criteria.
PA 06_0291 Schedule 3 Condition 19	Document existinPg consultation process with landowners regarding selection and use of landscaping materials.	Compliance – Improvement Opportunity	Complete	The process for consultation with Landowners is documented in the Environmental Management Plan, Access and compensation Agreement and Petroleum Operations Plan.

Appendix G. 2014-2016 Independent Audit Report – Non-Conformances Corrective Actions Register

AGL Camden Gas Project

27 October 2017

AGL Corrective Actions Register: 2014-2016 Independent Environmental Audit.

Development Consent and Condition Number	Action	Finding	Status/Target Action Date	Action Taken By AGL
DA 282-6-2003 Sch 4 Cond 58 DA 282-6-2003 Sch 6 EPL 12003 Cond O2.1 (a) EPL 12003 Cond O2.1 (b) EPL 12003 Cond M2.1 EPL 12003 Cond M2.3 EPL 12003 Cond M2.4	Work with DP&E and EPA to remove duplication between DA 282-6-2003 and EPL 12003. Work with the EPA to have CEMS related conditions in EPL 12003 varied as per EPA advice (dated 28 July 2016).	Non-Compliant (low risk)	30 December 2017	AGL has received a modification to DA 282-6-2003 which has removed duplication with EPL 12003. AGL will now submit an EPL variation request to the EPA to vary the CEMS related conditions.
Industrial Bore Licences Cond 8	Seek approval from DPI Water of the current method of measuring water volumes (measurement on collection by the haulage contractor) or install appropriate flow meters.	Non-Compliant (low risk)	Complete	DPI Water has approved AGL's current method of recording the volume of produced water from each well.
PPL Cond 7a	In the event of further gas gathering installation works, notice to be provided to the Director-General prior to commencement.	Non-Compliant (low risk)	Complete	Noted. There are no further gas gathering line installation works proposed.
PPL Cond 7d	In the event of further gas gathering installation works, a progress report must be provided to the Director- General on or before the 15th day of each month.	Non-Compliant (low risk)	Complete	Noted. There are no further gas gathering line installation works proposed.
PPL Cond 10d	All future Plug and Abandonment Reports to be submitted to DRE within 14 days of the well abandonment and include details of gas and water makes and composition.	Non-Compliant (low risk)	Complete	All Plug and Abandonment Reports are now submitted to DRG within the prescribed time frame.

Appendix H. Air Quality Monitoring Results Reported in 2015/16 Annual Return

EPA Monitoring Point 1							
Pollutant	**Unit of measure**	**No. of Samples Required by license**	**No. of Samples Collected and Analysed**	**Lowest Sample value**	**Mean of Sample**	**Highest Sample**	**License Limit**
Carbon dioxide	%	4	3	4.5	4.83	5.0	N/A
Dry gas density	Kg/m^3	4	3	1.31	1.31	1.31	N/A
Moisture	%	4	3	5.1	7.02	8.8	N/A
Molecular weight of stack gases	g/g-mole	4	3	29.35	29.38	29.4	N/A
Nitrogen Oxides	mg/m^3	4	3	203.00	318.5	416.00	461
Oxygen (0_2)	%	4	3	11.4	12.02	12.6	N/A
Sulfuric acid mist and sulphur trioxide (as SO3)	mg/m^3	4	3	0.1	0.2	0.2	5.0
Sulphur dioxide	mg/m^3	4	3	0.0	0.0	0.0	7
Temperature	Degrees Celsius	4	3	327	343.30	360	N/A
Velocity	m/s	4	3	27	27	27	N/A
Volumetric flowrate	m^3/s	4	3	2.9	3.01	3.1	N/A

Note: Monitoring point 1 was not sampled on one occasion during the 2015/16 Annual Return reporting period as compressor engine 1 was shut down due to mechanical issues.

EPA Monitoring Point 2							
Pollutant	**Unit of measure**	**No. of Samples Required by license**	**No. of Samples Collected and Analysed**	**Lowest Sample value**	**Mean of Sample**	**Highest Sample**	**License Limit**
Carbon dioxide	%	4	4	11.5	11.68	11.9	N/A
Dry gas density	Kg/m^3	4	4	1.34	1.34	1.34	N/A
Moisture	%	4	4	18.00	19.25	20.00	N/A
Molecular weight of stack gases	g/g-mole	4	4	30.00	30.00	30.00	N/A
Nitrogen Oxides	mg/m^3	4	4	0.33	30.3	277.16	461
Oxygen (0_2)	%	4	4	0.23	0.57	2.85	N/A
Sulfuric acid mist and sulphur trioxide (as SO3)	mg/m^3	4	4	0.0	0.1	0.3	5.0
Sulphur dioxide	mg/m^3	4	4	0.0	0.0	0.0	7
Temperature	Degrees Celsius	4	4	273.24	451.66	518.4	N/A
Velocity	m/s	4	4	14.00	26.00	30.00	N/A
Volumetric flowrate	m^3/s	4	4	0.55	0.89	1.00	N/A

EPA Monitoring Point 3							
Pollutant	**Unit of measure**	**No. of Samples Required by license**	**No. of Samples Collected and Analysed**	**Lowest Sample value**	**Mean of Sample**	**Highest Sample**	**License Limit**
Carbon dioxide	%	4	4	11.10	11.35	11.80	N/A
Dry gas density	Kg/m^3	4	4	1.34	1.34	1.34	N/A
Moisture	%	4	4	14.00	17.50	19.00	N/A
Molecular weight of stack gases	g/g-mole	4	4	29.90	29.95	30.00	N/A
Nitrogen Oxides	mg/m^3	4	4	1.25	40.1	249.92	461
Oxygen (0_2)	%	4	4	0.45	0.93	4.81	N/A
Sulfuric acid mist and sulphur trioxide (as SO3)	mg/m^3	4	4	0.0	0.0	0.1	5.0
Sulphur dioxide	mg/m^3	4	4	0.0	0.0	0.0	7
Temperature	Degrees Celsius	4	4	287.56	451.45	517.67	N/A
Velocity	m/s	4	4	12.00	24.00	30.00	N/A
Volumetric flowrate	m^3/s	4	4	0.53	0.73	0.99	N/A

EPA Monitoring Point 4							
Pollutant	**Unit of measure**	**No. of Samples Required by license**	**No. of Samples Collected and Analysed**	**Lowest Sample value**	**Mean of Sample**	**Highest Sample**	**License Limit**
Carbon dioxide	%	4	4	3.5	4.18	4.5	N/A
Dry gas density	Kg/m^3	4	4	1.31	1.32	1.35	N/A
Moisture	%	4	4	7.20	8.30	9.30	N/A
Molecular weight of stack gases	g/g-mole	4	4	29.30	29.56	30.15	N/A
Nitrogen Oxides	mg/m^3	4	4	51.0	89.8	110.0	110
Oxygen (0_2)	%	4	4	12.50	13.48	14.50	N/A
Sulfuric acid mist and sulphur trioxide (as SO3)	mg/m^3	4	4	0.0	0.0	0.1	3.5
Sulphur dioxide	mg/m^3	4	4	0.0	3.0	12.0	35
Temperature	Degrees Celsius	4	4	234.00	265.63	297.50	N/A
Velocity	m/s	4	4	3.30	3.34	3.40	N/A
Volumetric flowrate	m^3/s	4	4	0.08	0.08	0.09	N/A

EPA Monitoring Point 5							
Pollutant	**Unit of measure**	**No. of Samples Required by license**	**No. of Samples Collected and Analysed**	**Lowest Sample value**	**Mean of Sample**	**Highest Sample**	**License Limit**
Carbon dioxide	%	4	4	12.10	14.20	15.70	N/A
Dry gas density	Kg/m^3	4	4	1.34	1.36	1.37	N/A
Moisture	%	4	4	37.00	52.75	64.00	N/A
Molecular weight of stack gases	g/g-mole	4	4	30.10	30.39	30.60	N/A
Nitrogen Oxides	mg/m^3	4	4	0.0	0.0	0.0	13
Oxygen (0_2)	%	4	4	0.0	0.0	0.0	N/A
Sulfuric acid mist and sulphur trioxide (as SO3)	mg/m^3	4	4	0.0	0.2	0.5	35
Sulphur dioxide	mg/m^3	4	4	0.0	0.0	0.0	1042
Temperature	Degrees Celsius	4	4	75.00	83.63	89.00	N/A
Velocity	m/s	4	4	0.00	0.60	1.8	N/A
Volumetric flowrate	m^3/s	4	4	0.00	0.00	0.01	N/A

EPA Monitoring Point 6						
Pollutant	**Unit of measure**	**No. of Samples Required by license**	**No. of Samples Collected and Analysed**	**Lowest Sample value**	**Mean of Sample**	**Highest Sample**
Carbon dioxide	%	4	4	0.00	0.00	0.00
Dry gas density	Kg/m^3	4	4	1.29	1.29	1.29
Moisture	%	4	4	0.66	0.81	1.01
Molecular weight of stack gases	g/g-mole	4	4	29.00	29.00	29.00
Odour	Odour units	4	4	81.00	447.75	800.00
Oxygen (0_2)	%	4	4	20.90	20.90	20.90
Temperature	Degrees Celsius	4	4	25.00	32.50	41.00
Velocity	m/s	4	4	6.10	6.60	7.40
Volumetric flowrate	m^3/s	4	4	0.15	0.17	0.19

Appendix I. Assessable Pollutant Results – RPGP

Assessable Pollutant	Assessable Load (Kg)	Load Limit (Kg)
Benzene	9.122	47
Benzo(a) pyrene	0.0	0.27
Fine Particulates	368.364	460
Hydrogen Sulphide	0.016	1.60
Nitrogen Oxides	16,675.99	103,000.00
Nitrogen Oxides – Summer	1,618.49	No limit stipulated
Sulphur Oxides	7.554	3000.00
Volatile Organic Compounds	239.685	33,000.00
Volatile Organic Compounds-Summer	59.921	No limit stipulated

Appendix J. Rosalind Park Gas Plant Quarterly and Annual Noise Monitoring Results

Noise Monitoring Undertaken	Summary of Results
Attended noise monitoring 20 September 2016	Measured noise levels complied with the noise criteria for the sensitive receivers during the day, evening and night time periods.
Attended noise monitoring 08, 19 and 20 December 2016	Measured noise levels complied with the noise criteria for the sensitive receivers during the day, evening and night time periods.
Attended noise monitoring 27 March 2017	Measured noise levels complied with the noise criteria for the sensitive receivers during the day, evening and night time period.
Attended noise monitoring 14 June 2017	Measured noise levels complied with the noise criteria for the sensitive receivers during the day, evening and night time period.
Annual Noise Report Summary (From 2015-16 Annual Noise Compliance Monitoring Report)	All monitoring showed the RPGP to be compliant with the relevant operational noise limits set by the EPL and Development Consent No. 282-6-2003-I at both R1 and R7 receiver locations for day, evening and night under typical operating conditions.

Appendix K. Flare Event Monitoring

The RPGP flare log is provided in this Appendix from July 2016 to June 2017.

Date	Time	Duration (minutes)	Light (Day, Dusk, Night, Dawn)	No. Compressor on line	Cause of Flare Occurrence
05/08/2016	14:32-18:29	237	Day and Dusk	None	Plant shutdown
29/09/2016	12:39-13:00	21	Day	None	Plant shutdown
20/10/2016	09:38-15:23	345	Day	None	Plant shutdown
17/03/2017	14:30-16:13	103	Day	None	Plant shutdown
15/05/2017	10:17-10:58	41	Day	None	Plant shutdown
30/05/2017	15:28-18:16	168	Day and Dusk	None	Plant shutdown
30/05/2017	22:08-22:52	44	Night	None	Plant shutdown

Appendix L. Groundwater Monitoring Results

Electrical conductivity results from dedicated monitoring bores and Nepean River