

Annual Environment Performance Report 2020-2021

Camden Gas Project







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Document revision history

Date	Version	Author	Comment
14/10/2021	Draft 0	AGL	Draft for Internal Review
01/11/2021	Final	AGL	Final Version for Distribution



Abbreviations

Abbreviation	Description
AEMR	Annual Environmental Management Report
AEPR	Annual Environmental Performance Report
CCC	Community Consultative Committee
CGP	Camden Gas Project
CoC	Condition of Consent
CSG	Coal Seam Gas
DA	Development Application
DG	Director General
DPI&E	Department of Planning, Industry and Environment
DPI&E-MEG	Department of Planning, Industry and Environment – Mining, Exploration and Geoscience
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
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
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, Industry and Environment (DPI&E) and Department of Planning, Industry and Environment – Mining, Exploration and Geoscience (DPI&E-MEG). 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 2020 to 30 June 2021.

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 during the reporting period. Decommissioning was fully completed (i.e. well is cut and capped) for twenty wells (EM14, EM17, EM18, EM25, EM27, GL05, GL17, LB09, LB11, MP05A, MP08, MP10, MT02, MT04, MT06, RB06, RB08, WG01, WG03 and WG05).

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 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 2020 Annual Return. All assessable pollutants were also reported at below the annual load estimations as predicted in the RPGP Environmental Impact Statement (EIS).

The Annual Leak Detection and Repair program was undertaken and submitted to the NSW EPA as part of the 2020 Annual Return.

The National Pollutant Inventory (NPI) annual report for the 2020-2021 financial year was submitted on 29 September 2021.

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 rainwater from the runoff of all buildings within the RPGP. This water is stored in above ground rainwater 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 364 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 1,542.90KL last reporting period to 1,192.45KL this period, representing an decrease of 22.7%

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 2,532.36KL last reporting period to 2,220.01KL this period.

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 RPPG were received during the reporting period. This trend is consistent with previous years. Noise performance is consistent with operational noise predictions in the RPPG 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 (May 2021) concluded that 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. The next audit will be completed in May 2023.

Ten flare events occurred during this reporting period for a combined duration of 857 minutes. This is a decrease from the previous AEPR reporting period where fourteen field flare events occurred at the RPPG for a total of 1,139 minutes.

Cultural Heritage

There were no activities associated with Aboriginal or European heritage matters 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 EM12, EM14, EM17, EM18, EM22, EM25, EM27, EM31, EM32, EM33, JD01, JD11, KP03, LB09, LB11, MT02, MT04, RB08, RP02, RP03, RP04, RP05,



RP06, RP10, RP11, RP12, WG01, WG03 and WG05 throughout the reporting period. Due to favourable weather conditions, rehabilitation works progressed quickly towards achieving the Site-Specific Rehabilitation Completion Criteria and only minimal weed control and additional reseeding was required across the sites. Site Specific Rehabilitation Completion Criteria was achieved at twenty-five well sites (EM12, EM14, EM17, EM22, EM31, EM32, EM33, JD01, JD11, KP03, LB09, LB11, MP05, MP08, MT02, MT04, RB06, RB08, RP02, RP03, RP06, RP10, RP11, RP12 and SL09) during the reporting period.

Environmental Complaints

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

Environmental Non-Compliance Issues and Incidents

Non-conformances with EPL 12003 are reported in the Annual Return to EPA. The 2020 Annual Return for EPL 12003 (covering the period of 22 December 2019 to 21 December 2020) was submitted to the EPA on 19 February 2021 in accordance with the EPL.

There were no non-compliances with the EPL reported within the Annual Return

Community Liaison

AGL continues to pro-actively engage with the community 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 an understanding of landowner interests and ensured that these interests can be quickly addressed.

A total of one CCC meeting was held and three quarterly updates were provided during this reporting period.



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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 2020 to 30 June 2021 for the Camden Gas Project (CGP).

The CGP is located 65 kilometers (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 2008-2009 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.

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, 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 (DPI&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 (i.e. well is cut and capped) of twenty wells (EM14, EM17, EM18, EM25, EM27, GL05, GL17, LB09, LB11, MP05A, MP08, MP10, MT02, MT04, MT06, RB06, RB08, WG01, WG03 and WG05) was completed.

1.1.1. Environmental Management Improvements

During this reporting period AGL has maintained a focus on enhanced environmental improvements. Ongoing 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 vegetation rehabilitation completion criteria for rehabilitated wells EM12, EM14, EM17, EM18, EM22, EM25, EM27, EM31, EM32, EM33, JD01, JD11, KP03, LB09, LB11, MT02, MT04, RB08, RP02, RP03, RP04, RP05, RP06, RP10, RP11, RP12, WG01, WG03 and WG05;
- Continued provision of environmental monitoring data to external stakeholders through the uploading of information to the CGP website;
- 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 Handling Dangerous Goods and Hazardous Substances, Ground Rules for Contaminated Sites, Using Pesticides and Herbicides in the Workplace, Air Quality Management Sub Plan, Environmental Aspects and Impacts Register, AGL Environmental Awareness Module (all employees) and AGL Environmental Legal Obligations (Leaders only);
- Further implementation of AGL’s compliance management system, SAP; 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 DPI&E and DPI&E-MEG for the AGL CGP located in the Camden, Campbelltown and Wollondilly Local Government Areas (LGAs) for the period of 01 July 2020 to 30 June 2021.

The requirements of the DPI&E and DPI&E-MEG are provided in Section 1.2.1 and 1.2.2 below.

1.2.1. Requirements of the NSW Department of Planning, Industry and Environment (DPI&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 DPI&E and DPI&E-MEG.

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 2020 to 30 June 2021, pursuant to the above listed Development Application Approvals and Project Approvals.

1.2.2. Requirements of Department of Planning, Industry and Environment – Mining, Exploration and Geoscience (DPI&E-MEG)

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 DPI&E-MEG 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 DPI&E-MEG 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	Shane Bottin
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	sbottin@agl.com.au
Reporting Officer Details	
Contact Name	David Mudd – 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	dmudd@agl.com.au
Other Contact Details	
24-hour hotline	1800 039 600
POP and AEMR Reporting Periods	
POP (Version 14) Commencement Date	1 July 2021
POP (Version 14) End Date	30 June 2022
AEMR Commencement Date	July 2020
AEMR Period End Date	June 2021



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 were no modifications to existing Development Applications or Project Approvals. 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	<p>The Minister for Planning (DPI&E) determined the development application for Stage 1 in accordance with Section 76A, Section 80, and Section 91 of the <i>Environmental Planning and Assessment Act 1979</i> 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:</p> <ul style="list-style-type: none"> - "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 pipe yard depot."
	<p>A modification to this DA, dated 16 May 2006, was issued for the following:</p> <ul style="list-style-type: none"> - "Construction, drilling and operation of a directional well from LB09".
	<p>A modification to this DA, approved 9 February 2007, was issued for the following:</p> <ul style="list-style-type: none"> - "re-drilling of wells Apap 01 and Mahon 01."
	<p>A modification to this DA, dated 4 July 2007, was issued for the following:</p> <ul style="list-style-type: none"> - "construction, drilling and operation of 2 surface to in-seam wells (AP02/AP03) at AP01".
	<p>A modification to this DA, dated 4 August 2008, was issued for the Kay Park and Loganbrae gas gathering line modification project.</p>
	<p>The Minister for the then NSW Department of Infrastructure, Planning and Natural Resources (now) determined the development application in accordance with Section</p>

Development Application No.	Description of Proposed Development
<p>DA-246-8-2002i – dated 20 September 2002</p>	<p>80 of the <i>Environmental Planning and Assessment Act 1979</i>. The Conditions 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:</p> <ul style="list-style-type: none"> - "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. <p>A modification to this DA, dated 4 July 2007, was issued for the following:</p> <ul style="list-style-type: none"> - "construction, drilling and operation of 2 surface to in-seam wells (KP05 and KP06) at KP01". <p>A modification to this DA, dated 4 August 2008 was issued for the Kay Park and Loganbrae gas gathering line modification project.</p> <p>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.</p> <p>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).</p>
<p>DA No. 282-6-2003-i – 16 June 2004</p>	<p>The then Minister for Urban Affairs and Planning (now DPI&E) determined the development application for Stage 2 in accordance with Section 76A, Section 77A, and Section 91 of the <i>Environmental Planning and Assessment Act 1979</i> 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:</p> <ul style="list-style-type: none"> - "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." <p>A modification to this DA, dated 26 August 2004, was issued to include additional land that was omitted from the development consent.</p> <p>A modification to this DA, dated 01 February 2005, was issued to amend an access road and gathering line route on the EMAI.</p> <p>A modification to this DA, was issued, dated 01 June 2005.</p>

Development Application No.	Description of Proposed Development
	<p>A modification to this DA, dated 16 May 2006, was issued for the following:</p> <ul style="list-style-type: none"> - "Construction, drilling and operation of 1 directional well from GL7 and 2 directional wells from GL10".
	<p>A modification to this DA, approved 22 October 2006, was issued for the following:</p> <ul style="list-style-type: none"> - "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"
	<p>A modification to this DA, approved 1 November 2006, was issued for the following:</p> <ul style="list-style-type: none"> - "construction, drilling and operation of 1 directional well (GL16) from GL7 and 2 Surface to in-seam wells (GL14 and GL15) from GL10."
	<p>A modification to this DA, approved 2 May 2007 was issued for the following:</p> <ul style="list-style-type: none"> - relocation of the Rosalind Park Gas Plant access road.
	<p>A modification to this DA, dated 4 July 2007, was issued for the following:</p> <ul style="list-style-type: none"> - "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"
	<p>A modification to this DA, dated 11 April 2008, was issued for the following:</p> <ul style="list-style-type: none"> - "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."
	<p>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.</p>
	<p>A modification to this DA, dated 18 September 2009, was approved for the re-routing of a damaged gas gathering line at Glenlee.</p>
	<p>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.</p>
	<p>A modification to this DA, dated 27 March 2017, was issued to delete:</p> <ul style="list-style-type: none"> - 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. <p>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.</p>

Development Application No.	Description of Proposed Development
DA-183-8-2004i – 16 December 2004	<p>The then Minister for the NSW Department of Infrastructure, Planning and Natural Resources (now DPI&E) determined the development application in accordance with Section 80 of the <i>Environmental Planning and Assessment Act 1979</i>. 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:</p> <ul style="list-style-type: none"> - 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.
	<p>A modification to this DA, dated 4 July 2007, was issued for the following:</p> <ul style="list-style-type: none"> - "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."
	<p>A modification of this DA (DA 183-8-2004i - Mod 2), dated the 9 July 2012, was issued for the following:</p> <ul style="list-style-type: none"> - "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	<p>The Minister for the NSW Department of Infrastructure, Planning and Natural Resources (now DPI&E) determined the development application in accordance with Section 80 of the <i>Environmental Planning and Assessment Act 1979</i>. 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:</p> <ul style="list-style-type: none"> - "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."
	<p>A modification to this DA, dated 16 May 2006, was issued for the following:</p> <ul style="list-style-type: none"> - "Construction, drilling and operation of a directional well from each of GL02 and GL11."
	<p>A modification to this DA, dated 4 July 2007, was issued for the following:</p> <ul style="list-style-type: none"> - "upgrading (twinning) of the gas gathering line between GL02 and GL05."
	<p>A modification to this DA, dated 16 November 2010, was issued for the following:</p> <ul style="list-style-type: none"> - 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	<p>The then Minister for the NSW Department of Infrastructure, Planning and Natural Resources (now DPI&E) determined the development application in accordance with Section 80 of the <i>Environmental Planning and Assessment Act 1979</i>. The Conditions of Development Consent for DA No. DA-75-4-2005 dated 07 October 2005 relate to</p>

Development Application No.	Description of Proposed Development
	<p>the Camden Gas Project Stage 2 (the 'Development'). The Development Consent describes the proposed development as:</p> <ul style="list-style-type: none"> - "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." <p>A modification to this DA, dated 4 July 2007, was issued for the following:</p> <ul style="list-style-type: none"> - "construction and drilling of 9 wells, including 2 Surface to in-seam wells (SL08 and SL09) at SL03." <p>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.</p>
Project Approval 06_0137 – 9 December 2006	<p>The then Minister for Planning approved the Project under Section 75J of the <i>Environmental Planning and Assessment Act 1979</i>. 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:</p> <ul style="list-style-type: none"> - Construction and drilling of wells RB03-RB12 and gas gathering lines.
Project Approval 06_0138 – 9 December 2006	<p>The then Minister for Planning approved the Project under Section 75J of the <i>Environmental Planning and Assessment Act 1979</i>. 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:</p> <ul style="list-style-type: none"> - Construction and drilling of wells EM23-36 and gas gathering lines. <p>A modification to this Approval, dated 6 August 2007, was issued for the following:</p> <ul style="list-style-type: none"> - "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	<p>The then Minister for Planning approved the Project under 75J of the <i>Environmental Planning and Assessment Act 1979</i>. 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:</p> <ul style="list-style-type: none"> - Construction and drilling of wells and gas gathering lines in the Spring Farm and Menangle Park area. <p>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.</p>
Concept Plan Approval 06_0292 – 4 September 2008	<p>The then Minister for Planning approved the Project under 75O of the <i>Environmental Planning and Assessment Act 1979</i>.</p>



Development Application No.	Description of Proposed Development
	<p>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:</p> <ul style="list-style-type: none"> - 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 DPI&E-MEG)	AGL has previously surrendered PEL 2.
PPL No.1, issued by the Department of Mineral Resources (now DPI&E-MEG)	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 DPI&E-MEG)	10 October 2002 (for a period of 21 years)
PPL No.4, issued by the Department of Mineral Resources (now DPI&E-MEG)	6 October 2004 (for a period of 21 years)
PPL No.5, issued by the Department of Mineral Resources (now DPI&E-MEG)	28 February 2007 (for a period of 21 years)
PPL No. 6, issued by the Department of Industry and Investment (now DPI&E-MEG)	29 May 2008 (for a period of 21 years)
Conditions of Consent for DA 15-1-2002i (file no. S00/00945), issued by the DPI&E. The requirements of the Environment Protection Licence 12003 have been incorporated into relevant conditions of consent	<p>23 July 2002 (for a period of 21 years from date of granting of the production lease).</p> <p>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.</p>

Title	Grant Date and Term
	<p>The following modifications have been issued to this DA:</p> <ul style="list-style-type: none"> - modification dated 16 May 2006 - modification dated 9 February 2007 - modification dated 4 July 2007 - modification dated 4 August 2008
<p>Conditions of Consent for DA 246-8-2002i (file no. S02/01615), issued by the DPI&E</p>	<p>20 September 2002 (for a period of 21 years from date of granting of the production lease).</p> <p>The following modifications have been used to this DA:</p> <ul style="list-style-type: none"> - modification dated 4 July 2007 - modification dated 4 August 2008 - modification dated 3 December 2008 - modification dated 20 April 2011
<p>Conditions of Consent for DA 282-6-2003-i, issued by the DPI&E. The requirements of the Environment Protection Licence 12003 and 3A Permit have been incorporated into this Condition of Consent.</p>	<p>16 June 2004 (for a period of 21 years).</p> <p>The following modifications have been issued to this DA:</p> <ul style="list-style-type: none"> - 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
<p>Conditions of Consent for DA-183-8-2004i, issued by the DPI&E</p>	<p>16 December 2004 (for a period of 21 years).</p> <p>A notice of modification was issued on the 4 July 2007.</p> <p>A notice for modification was issued on the 9 July 2012</p>
<p>Conditions of Consent for DA 9-1-2005, issued by the DPI&E</p>	<p>26 May 2005 (for a period of 21 years).</p> <p>The following modifications have been issued to this DA:</p> <ul style="list-style-type: none"> - 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 DPI&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 DPI&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 DPI&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 DPI&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 DPI&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 DPI&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 14 December 2017 (Notice #1558481) and 21 December 2017 (Notice #1560094).
Petroleum Operations Plan (POP) Version 14	01 July 2021 – 30 June 2022
Pipeline Licence No.30, issued by Department of Energy, Utilities and Sustainability, under NSW <i>Pipelines Act 1987</i>	19 May 2004 (for a period of 20 years)
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 RGP 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 2021.

4.1. Description of Operations from July 2020 to June 2021

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

During this reporting period, decommissioning was completed (i.e. well is cut and capped) for twenty wells (EM14, EM17, EM18, EM25, EM27, GL05, GL17, LB09, LB11, MP05A, MP08, MP10, MT02, MT04, MT06, RB06, RB08, WG01, WG03 and WG05).

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 during this reporting period.

Workover Maintenance Activities

The following workover activities took place during this reporting period.

During the reporting period, no well workover activities were completed.

Table 4-1: Description of Workover Maintenance Activities

PPL	Well Name	Date Workover Conducted	Description of Activities
N/A	N/A	N/A	N/A

Rosalind Park Gas Plant Compressors

The RPKG compressors operated during the reporting period for:

- Compressor No.1 operated for 5138 hours;
- Compressor No.2 operated for 3597 hours; and
- Compressor No.3 operated for 3715 hours.

Land Access and Approvals

No Environmental Protection License variations to EPL 12003 have been submitted during the reporting period.

No Development Applications have been applied for, granted or modified during this reporting period.



Current Status of Well Operations

The status of CGP well operations as of 30 June 2021 is summarised in Appendix D. The only amendment from the previous reporting period is the decommissioning of twenty wells (EM14, EM17, EM18, EM25, EM27, GL05, GL17, LB09, LB11, MP05A, MP08, MP10, MT02, MT04, MT06, RB06, RB08, WG01, WG03 and WG05).

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 DPI&E-MEG 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 RPPG.

4.1.4. Land Preparation

No wells were drilled during this reporting period.

Surface rehabilitation works for the twenty decommissioned wells (EM14, EM17, EM18, EM25, EM27, GL05, GL17, LB09, LB11, MP05A, MP08, MP10, MT02, MT04, MT06, RB06, RB08, WG01, WG03 and WG05) was undertaken in consultation with the landowner DPI&E-MEG 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

There were no infrastructure improvement works completed during the reporting period.

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 to facilitate the implementation of environmental management. The EMP was revised in March 2020, 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 Sub Plans are listed below, with plans updated during this reporting period noted accordingly:

- Flora and Fauna Management (August 2020);
- Soil and Water Management (August 2020);
- European Heritage Management (August 2020);
- Rehabilitation and Landscape Management (August 2020);
- Aboriginal Cultural Heritage Management (December 2013);
- Air Quality Management (August 2020);
- Waste Management (August 2020);
- Traffic Management (August 2020);
- Dangerous Goods and Hazardous Materials Storage (August 2020);
- Groundwater Management Plan (August 2020);
- Noise Management Sub Plan (October 2020); and
- Emergency Response (December 2020).

EMP Sub Plan Compliance Audits have been developed to enable in-house compliance assessments of each Sub Plan. Due to the COVID-19 pandemic, travel restrictions and subsequent work health orders, no in-house compliance assessments were undertaken during the reporting period.

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). During the reporting period, the PIRMP was reviewed and updated in June 2021.

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. Version 12.1 of the POP applied to the period 17 August 2019 through to 30 June 2020 and was approved by the DPI&E-MEG in August 2019.

The POP is reviewed annually, and subsequent versions are provided to the DPI&E-MEG for approval. Version 14 of the POP was drafted during the reporting period and sent to the DPI&E-MEG for review. Version 14 of the POP was approved by the DPI&E-MEG and applies through until 30 June 2022.

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
		Access Roads	6.1.4
		Gas Plant	4.1.1



POP Section	Aspect of Operations	Petroleum Activity	Relevant AEPR Section(s)
3	Environmental Management and Rehabilitation	Rehabilitation	6.1 – 6.6

5.2. Actions Required by Regulatory Authorities from Previous AEPR Review

No comments were provided to AGL in relation to the 2019-20 AEPR.

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.

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 and EPL 12003

Development Consent DA-282-6-2003-i, Schedule 4 CoC 47 and EPL 12003 (L3 and M2) specifies requirements to monitor air quality at the RGP and air emission criteria.

EPL 12003 (L2) stipulate load limits for assessable pollutants that must not be exceeded during the reporting period from the RGP.

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, 2, 3 and 4 September 2020;
- Quarterly Stack Emission Survey, 4 December 2020;
- Quarterly Stack Emission Survey, 11 March and 1 April 2021; and
- Quarterly Stack Emission Survey, 11 and 12 May 2021.

Monitoring results for the 2020 Annual Return period are provided in Appendix G. 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 2020 Annual Return (summarised in Appendix G and Appendix H). 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 2020 Annual Return.

Rosalind Park Gas Plant – Continuous Monitoring

The EPL 12003 Condition M2.3 requires continuous monitoring of NO_x, temperature, moisture, flow rate, and oxygen at Point 1 at all times when the compressor is operating. No exceedances of the limits within EPL 12003, Condition L3.1, were recorded in continuous monitoring monthly reports during the period.

Camden Gas Project – Annual Leak Detection and Repair (LDAR) Program

Under EPL 12003, conditions M7.2 and M7.3, AGL is required to operate a leak detection and repair program for all relevant components of plant and equipment. The program is undertaken on an annual basis and the report must detail the total number of components inspected, percentage of minor, major and significant leaks found by component type, emission levels of leaking equipment and subsequent emissions levels of re-check post repair and the repair response times for classified emissions leaks.

The Annual LDAR report is reported in accordance with conditions R4.2 and R4.3 of EPL 12003 and submitted to the NSW EPA as supporting documentation for the 2020 Annual Return.

National Pollutant Inventory Reporting

The National Pollutant Inventory (NPI) Report for the RPGP for the 2020-2021 financial year was prepared and submitted on 29 September 2021. 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 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 to calculate the annual pollutant loads and associated fees under EPL 12003. For the 2020 Annual Return the calculated annual load for benzene was 22.098 kg/year, which is well below the limit of 47 kg/year as required by EPL 12003. This represented an decrease from the previous Annual Return reporting period where 37.035 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 to calculate the annual pollutant loads and associated fees under the EPL 12003. For the 2020 Annual Return, the calculated annual load for Benzo(a)pyrene was 0.001 kg/year, which is less than the annual load limit of 0.27 kg/year as required by EPL 12003. The results reported in the 2020 Annual Return represents no change from the 0.001 kg/year reported for the previous Annual Return 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 2020 Annual Return, the calculated annual total load for fine particulates was 7.751 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 a decrease from the previous year's level of 18.22 kg/year.
- **Hydrogen Sulphide** - Hydrogen sulphide is an assessable pollutant and is calculated annually to determine the associated fees under EPL 12003. For the 2020 Annual Return, the calculated annual load for hydrogen sulphide was 0.331 kg/year. This is less than the 1.6 kg/year load limit required by EPL 12003, and less than the annual load estimation of 1.4 kg/year as predicted in the RPGP EIS. The results reported in the 2020 Annual Return represents a decrease from the 0.493 kg/year reported for the previous Annual Return period.



- **Nitrogen Oxides** - NO_x annual pollutant loads and air concentration limits are monitored on a quarterly and continuous basis. For the 2020 Annual Return, the calculated annual load for NO_x was 26,431.107 kg/year, which is well below the licensed limit of 103,000 kg/yr. This represents an increase compared with the 26,114.48 kg/year reported in the previous Annual Return. The NO_x annual load reported in the 2020 Annual Return was also much less than the predicted assessable load of 93,226 kg/year as stated in the RPPG EIS.
- **Sulphur Oxides** – Sulphur oxides are measured quarterly to calculate the annual pollutant loads and the associated fees under EPL 12003. For the 2020 Annual Return, the calculated annual total load for Sulphur Oxides was 0.057 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 RPPG EIS. This result is higher than the results reported in the previous Annual Return of 0.05 kg/yr.
- **Volatile Organic Compounds (VOCs)** – VOCs discharged to air are measured annually to calculate the annual pollutant loads and associated fees under EPL 12003. For the 2020 Annual Return, the calculated annual load for VOCs was 151.313 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 RPPG EIS. The 2020 Annual Return load result represented a decrease from the previous Annual Return result of 185.29 kg/year.

There were no exceedances of the EPL 12003 licence limits for the assessable annual pollutant loads for the RPPG as reported within the 2020 Annual Return. Assessable pollutants were also reported at below the annual load estimations as predicted in the RPPG EIS.

AGL fully met its AQMS 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 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. 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 (SWMS).

Management of erosion and sedimentation issues is summarised in the SWMS. The objectives of the SWMS 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.

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

Surface water management is a key environmental issue requiring careful planning and implementation of sediment and erosion control processes and management of potential contamination activities to avoid a reduction in surface water quality. Control measures employed to meet the objectives for surface water are outlined in the SWMSP.

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

- 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 rainwater from the runoff of all buildings within the RPGP. This water is stored in above ground rainwater tanks and is used to service the RPGP's amenities and wash bay. Once used, the water is separately stored in in-ground grey water and septic water tanks. A combined total of 210.50 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 has a small volume of water comprising of previously treated water from the RPGP, filtered produced water and direct rainfall. Treated water from the RPGP and filtered produced water is now stored in separate above ground double walled tanks. Only direct rainfall water goes into the flare pond. Analysis results for water stored within the RPGP flare pond is as follows:

- The water level in the flare pond decreased from approximately 1.8m in July 2020 to 1.2m in June 2021;
- Electrical conductivity levels ranged from 4,370 $\mu\text{S}/\text{cm}$ to 13,000 $\mu\text{S}/\text{cm}$;
- Total suspended solids ranged from 0 mg/L to 100 mg/L;



- Biochemical oxygen demand levels ranged from <2 mg/L to 20 mg/L;
- Oil and grease levels ranged from <5 mg/L to 6 mg/L;
- Total polycyclic aromatic hydrocarbons results were below the Limit of Reporting;
- Total phenols results were below the Limit of Reporting;
- Total organic carbon levels ranged from <1 mg/L to 295 mg/L; and
- Total petroleum hydrocarbons were below the Limit of Reporting.

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 twenty wells (EM14, EM17, EM18, EM25, EM27, GL05, GL17, LB09, LB11, MP05A, MP08, MP10, MT02, MT04, MT06, RB06, RB08, WG01, WG03 and WG05).was completed;
- The continued operation of the RPGP; and
- Continued operation of the RPGP water treatment plant.

Rainwater 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 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 GMP.

5.6.2. Groundwater Generation Results

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



- 1,192.45 KL of produced groundwater was generated from wells during dewatering. 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 2,220.01 KL of produced water from well sites and the RGP 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:

- A 2020-2021 Annual Groundwater and Surface Water Monitoring Report was published in September 2021;
- Water quality monitoring events were completed at selected producing gas wells as part of the groundwater monitoring network and as required by the EPL; and
- Two water quality sampling events and continuous water level monitoring were completed at dedicated groundwater monitoring bores.

AGL's Annual Bore Licence Compliance Report (2020-2021) was submitted to Natural Resources Access Regulator after the reporting period on 28 September 2021.

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 three gas wells (RB10, MP07 and MP09) contained sufficient water for sampling to take place during the latest Annual Return period (i.e. 22 December 2019 – 21 December 2020). 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 3,370 and 14,700 $\mu\text{s}/\text{cm}$ during the 2019-2020 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 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 2020/21 year. Details of salinity trends from groundwater monitoring bore results are provided at Appendix K of this report.

5.6.6. Groundwater – Environmental Performance / Trends

The total volume of produced water generated has slightly increased from 1,542.90 KL last reporting period to 1,192.45 KL this period, representing an decrease of 22.7%. This marginal increase is due to the nine well workovers successfully returning more produced water. 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 RPPG has decreased from 2,532.36 KL last reporting period to 2,220.01 KL this period. This decrease is due to a reduction in produced water from the well sites and RPPG.

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 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.

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 RGP site and workover rig facilities	210.50 KL	
General Waste	11.16 tonnes	
Produced water		2,220.01 KL
Hazardous Waste (exclusive of septic)	19.92 tonnes	
Waste Oil		13.60 tonnes
Coal Sludge/Workover Mud		296.92 KL
Scrap steel		7.76 tonnes
Batteries		0 tonnes
Oil filters		4 tonnes
Paper		0.55 tonnes
Co-mingled recycling		9.74 tones

5.7.3. Waste Management – Environment Performance

AGL continued one waste improvement opportunity during the reporting period. The Return and Earn scheme has continued at the RGP, with all proceeds donated to charity.

AGL has maintained its process of waste disposal and recycling records and had no non-conformances regarding waste management during the reporting period. Therefore, AGL 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 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 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 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 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.

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 native 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 native 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:

- 5 May 2021: EM05, EM07, EM09, EM10, EM11, EM13, EM15, Em19, EM20, EM24, EM38;
- 12 May 2021: GL02, GL04, GL11, GL12, GL13; and
- 18 May 2021: KP01, KP02, KP05, KP06

The main herbicides used were Saturate, Performa M, Square Down and Brushwet Herbicide. Approximately 5.8 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 DPI&E receive a summary of this information as part of this AEPR. A summary of the annual report's results is provided in Appendix I.

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 6 August 2020;
- Attended noise monitoring 8 December 2020;
- Attended noise monitoring 30 March 2021; and
- Attended noise monitoring 25 June 2021.

Four quarterly operational noise monitoring reports were prepared for the reporting period of July 2020 to June 2021 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 I.

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 operational noise monitoring was undertaken during the reporting period.

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 (EM14, EM17, EM18, EM25, EM27, GL05, GL17, LB09, LB11, MP05A, MP08, MP10, MT02, MT04, MT06, RB06, RB08, WG01, WG03 and WG05). Zero well workovers were completed during the audit period.

Noise generating activities associated with well workover maintenance, decommissioning and rehabilitation may include:

- Workover rig and associated equipment;
- Earth moving activities associated with rehabilitating well pads and access roads; 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 were 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 is 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 if 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 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 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 in May 2021. The Landscape and Lighting Audit Report concluded that 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. The next audit will be completed in May 2023.

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 J.

Ten flare events occurred during the reporting period and had a total duration of 591 minutes. These events occurred on 21 August, 26 August, 30 August, 16 September, 21 September, 25 September, 12 November, 24 March, 21 April, 23 April. The duration of flaring events decreased from the previous AEPR period, where fourteen field flare events occurred, lasted 1,139 minutes.

In accordance with DA 282-6-2003-i Schedule 4 Clause 11 (f), Appendix J includes a comparison of the frequency, night-time frequency, duration and estimated light level of each type of flare event with the flare events predicted in Table 2 of the report URS (2003) "Sydney Gas Proposal Stage 2 Coal Seam Methane Project Visual Assessment of Lighting and Flare" prepared by URS for Sydney Gas dated 6 November 2003."



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 DPI&E on 2 July 2004. The RGP 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 DPI&E approved that the 2019 Vegetation and Landscape Monitoring Report satisfied the requirements of Schedule 4, Condition 14 of DA 282-6-2003i. The next Vegetation and Landscape Monitoring audit is scheduled for November 2021.

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

Clause 18 requires that the requirements of the Landscape Planting Plan are 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 May 2021. The DPI&E approved that the Landscape and Lighting Audit satisfied with all relevant consents assessed. The next audit will be completed in May 2023. 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 are 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 May 2021. The DPI&E approved that the Landscape and Lighting Audit satisfied with all relevant consents assessed. The next audit will be completed in May 2023.

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 RGP 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

Ten flare events occurred within this reporting period and totalled 591 minutes, which represents an decrease since the previous AEPR period, where fourteen field flare events lasted 1,139 minutes. Please refer to Appendix J 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 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. Due to recent Aboriginal Heritage Impact Permit (**AHIP**) approvals issued by the Office of Environment and Heritage (**OEH**), the Aboriginal Cultural Heritage Management Plan is in the final stages of being updated. 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 September 2019, an AHIP was submitted to the OEH to relocate several artefacts on existing access track on the Wandinong Property. On 28 May the AHIP for the Wandinong Property was approved by the OEH, and artefact relocation activities were completed in June 2020.

During the reporting period AGL engaged Biosis to complete an Aboriginal Cultural Heritage Assessment in consultation with Registered Aboriginal Parties for proposed maintenance upgrades to existing access tracks on the Glenlee property.

5.16.3. Aboriginal Heritage Management Performance

In June 2020, AGL completed the Wandinong artefact relocation activities associated with the OEH approved AHIP. No AGL related reportable incidents were recorded or community complaints received. 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 regarding early agricultural expansion.

The project area is located, at least partially, within three Historic Cultural Landscapes. These areas have been classified based on 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.

Regarding 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 regarding European Heritage. 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 RPPG 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.

Regarding 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. AGL has successfully met its target regarding Bushfire Management at the CGP.



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 9 Environmental Hazards, 0 Near Misses, and 0 Incident were reported within AGL's incident reporting system, myHSE. 9 of these reports were assessed as 'low' risk rating; 0 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 Incident recorded can be grouped and summarised as follows:

- Storage of chemicals;
- Land and noxious weeds management;
- Waste management;
- Site maintenance; and
- Air emissions.

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 environmental awareness training on the following topics.

Table 5-3: Environmental Training Delivered in FY21

Title of Training	Date Delivered	Summary of training
Annual Health, Safety and Environment Training	November 2020	<ul style="list-style-type: none">- Background- Purpose- Objectives and Targets- Responsibilities



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 Surface Rehabilitation	Wells – Final Surface Rehabilitation	Gas Plant – Fully Operational	Gas Plant – Fully Rehabilitated	Gas Gathering Line – Fully Operational (km)	Gas Gathering Line – Fully Rehabilitated (km)
1	38	7	31	0	1	30	5*
2	5	4	1	0	0	1.5	0
4	96	51	45	1	0	68.6	0.3*
5	5	4	1	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).

Final surface rehabilitation works were undertaken in consultation with the landowner DPI&E-MEG and EPA for four wells within PPL1 (EM25, EM27, LB09 and LB11), fifteen wells within PPL4 (EM14, EM17, EM18, GL05, GL17, MP05A, MP08, MT02, MT04, MT06, RB06, RB08, WG01, WG03 and WG05) and one well within PPL5 (MP10).

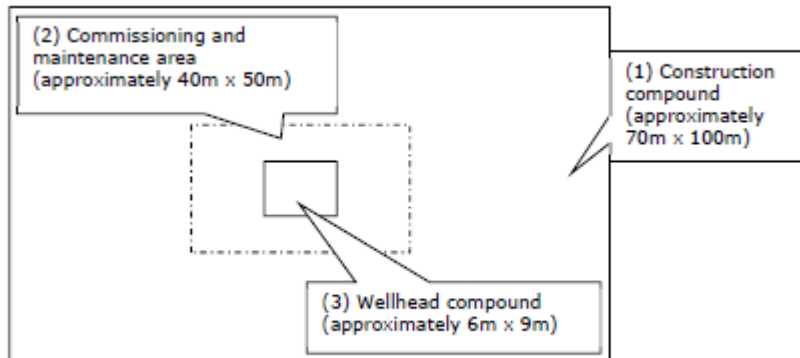
6.1.2. Well Sites

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 surface 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 surface rehabilitation of well sites following decommissioning 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 applicable 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 DPI&E-MEG and EPA;
- Removing plant and equipment from well surface locations and removal of fenced compounds;
- Filling in excavated areas and trenches;
- 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 to assess that the rehabilitation works have fully satisfied the Site-Specific Rehabilitation Completion Criteria.

Quarterly inspections were undertaken at rehabilitated wells EM14, EM17, EM18, EM25, EM27, GL05, GL17, LB09, LB11, MP05A, MP08, MP10, MT02, MT04, MT06, RB06, RB08, WG01, WG03 and WG05 (rehabilitated during current reporting period), EM12, EM21, EM22, EM28, EM31, EM32, EM33, EM34, EM40, JD01, JD11, KP03, MT01, RP02, RP03, RP04, RP05, RP06, RP10, RP11, RP12 and SL09 (rehabilitated during previous reporting period) throughout the reporting period. Rehabilitation works progressed well towards achieving the Site-Specific Rehabilitation Completion Criteria and only minimal



weed control and additional reseeding was required across the sites. During the reporting period, twenty wells (EM14, EM17, EM18, EM25, EM27, GL05, GL17, LB09, LB11, MP05A, MP08, MP10, MT02, MT04, MT06, RB06, RB08, WG01, WG03 and WG05). achieved the Site-Specific Rehabilitation Criteria. Further details are provided in Appendix D.

6.1.3. Gas Gathering System

Initial surface 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.

6.1.5. Buildings and Auxiliary Facilities

The provision of offices and auxiliary services for the CGP operations of AGL are located at the RPPG 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 surface rehabilitation activities during the next AEPR reporting period will include EM06, EM08, EM10, EM24, EM39, GL02, GL04, GL09, GL11, LB06, MP11, MP13, MP14, MP15, MP16, MP17, MT08, RP07, RP08, SF02 and SL03 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 DPI&E-MEG within the POP.



7. Project Commitments Register

AGL understands that the Project Commitments Register (PCR) was implemented by Sydney Gas during project start-up phase. The purpose of the PCR was to keep the Department of Planning informed on the implementation of commitments and initiatives made by Sydney Gas for the construction phase of the RPGP and wells associated with the Development Consent (DA 282-6-2003i, Schedule 3 Condition 18). The Development Consent was issued to Sydney Gas in 2004.

Based on the findings of previous Independent Environmental Audits dating back to 2006-2008, AGL understands that DA 282-6-2003i, Schedule 3 Condition 18 was satisfied and closed out by Sydney Gas. AGL currently operates a compliance management system and has implemented an Environmental Management Plan to ensure compliance with all Development Consent and Licence conditions for the remaining operations phase of the Camden Gas Project.

Appendix N includes a summary of compliance with all Development Consent and Project Approval conditions.



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 (1800 039 600) 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 and the Camden Gas Project website.

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 annual 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 RGP:

- 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 2020-2021 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 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. 56: 30 September 2020.
- December 2020 (No meeting, quarterly update provided);
- March 2021 (No meeting, quarterly update provided); and
- July 2021 (No meeting, quarterly update provided).

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 previous reporting period, the CCC agreed to reduce meeting frequencies from quarterly to once 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 status at the time of this document's publication.



Table 8-1: CCC Meeting Action Items (1 July 2020 to 30 June 2021)

Action Item	Responsible	Status
Meeting 56: 30 September 2020		
Provide a follow up of potential legacy projects considered for post decommissioning of the Camden Gas Project.	Senior Manager, Stakeholder Relations	Ongoing

8.3.2. Other Consultation and Community Support

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

- Community Consultative Committee meetings;
- Camden Show sponsor and stall holder;
- Email updates to Camden, Wollondilly and Campbelltown Local Governments;
- Email and phone updates to local State Members of Parliament in the project area;
- 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;
- Providing grants to local community groups including Big Yellow Umbrella, The Macarthur & District Australian Native Orchid Group, Kids of Macarthur Health Foundation, Macarthur Family and Youth Services, Camden Town Farm, Camden Council, Camden South Public School, Camden High School, Lifeline Macarthur, Turning Point Camden; and
- Sponsorship of local organisations and charities including Camden Show, Youth Solutions and Yandelora School for Children with mild to severe disabilities.

8.4. Site Visits

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

- EPA site inspections to producing well sites; and
- EPA and DPI&E-MEG site inspections to well sites during decommissioning and rehabilitation.



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 SAP review;
- Annual revision of the CGP EMP (and Sub Plans, as required);
- Independent Environmental Audits; 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 2019 Annual Return for EPL 12003 (covering the period of 22 December 2019 to 21 December 2020) was submitted to the EPA on 19 February 2021 in accordance with the EPL.

There were no non-compliances with the EPL reported within the Annual Return

9.1.2. Non-Compliances Identified During Independent Environmental Audit

2018-2020 Independent Environmental Audit

During the reporting period, an IEA was undertaken by Treo Environment for the period of 1 July 2018 to 30 June 2020. The audit assessed whether the CGP had complied with the relevant standards, performance measures, and statutory requirements, as outlined in:

- PA 06_0137 (Razorback)
- PA 06_0138 (EMAI)
- PA 06_0291 (Spring Farm and Menangle Park)
- 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).

The 2018-2020 IEA recorded a total of nine (9) non-compliances with respect to 20 conditions from a total of 1800 conditions assessed. This equates to greater than 99% project compliance. The auditor considered the non-compliances to be of low risk. AGL received a request for clarification from the DPI&E on 1 October



2021, regarding corrective actions to address non-compliances. AGL provided further information to the DPI&E on 21 October 2021.

A summary of the corrective actions from the 2018-2020 IEA is provided at Appendix M. A copy of the 2018-2020 IEA Report can be found on the Camden Gas Project website.

<https://www.agl.com.au/content/dam/digital/agl/documents/about-agl/how-we-source-energy/camden-gas-project/agl-camden-gas-project-independent-environmental-audit-2018-2020.pdf>



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



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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	236059	282-6-2003i (Mod 26 August 2004)
		7	787284	
1	249393			
	Water storage tank	1-3	1187569	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	JD 11	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	D 2006-2013	19853 1234643	282-6-2003i (Mod 26 August 2004)
Kay Park	KP 01 – KP 03	2	594242	246-8-2002i
	KP 05 & KP 06	2	594242	246-8-2002i (Mod 4 July 2007 & Mod 20 April 2011)
EMAI	EM 01, EM 05 – EM 08	2	1050479	282-6-2003i (Mod 26 August 2004)
	EM 09 – EM 17	2	133910	282-6-2003i (Mod 26 August 2004)
	EM 18 - EM 20	1	130288	282-6-2003i



Area	Well Numbers	Property Lot Number	Deposited Plan No.	DA No.
	EM 21 (EM 1H), & EM 22 (EM 1V)	2	133910	9-1-2005
	EM 24-26*, 27, 29*-32	1	130288	PA 06_0138
	EM 28	2	133910	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)
	GL 16	38	1098588	282-6-2003 (Mod 16 May 2006)



Area	Well Numbers	Property Lot Number	Deposited Plan No.	DA No.
	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
	Rosalind Park Gas Plant	PT35	230946	282-6-2003i

Area	Well Numbers	Property Lot Number	Deposited Plan No.	DA No.
	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*	1	1241595	PA 06_0291
	SF05, SF07 – 09 (SF 20 site), SF10*,	1	1007608	PA 06_0291
	Gas gathering system & access roads	13 1 4	1081753 1007608 1007608	PA 06_0291

Area	Well Numbers	Property Lot Number	Deposited Plan No.	DA No.
		2 35 - 38	1076817 1098588	
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	11	1234643	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	1001-1002 7 2 X D 2 8 1 8 31 26 27 1 9 Book 70 Book 80	1234642 253700 790254 378264 19853 737485 249530 598067 253700 1100981 249530 249530 790254 253700 No.447 No. 475	PA 06_0291 (Mod 3 20 Apr 2011)



Area	Well Numbers	Property Lot Number	Deposited Plan No.	DA No.
		2	236059	
		3	236059	
		1	249393	
		Menangle Road reserve	Between rail overpass and the Nepean River Bridge	
		63	1104486	
		2	842735	
		1001	734435	
		1002	734436	

*Wells approved but not drilled.



Appendix C. Camden Infrastructure Map for FY2021



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Appendix D. Status of Well Operations FY2021

Changes from the previous reporting period are shaded in grey.

Status of Well Operations

Well Name	Date Drilling Completed	Status of Operation June 2021
AP01	2000	Decommissioned
EB01-10	Incomplete	Approved – Not Drilled (DA now expired)
EM01	Incomplete	Decommissioned
EM05 – 13, 15, 19 20	2005	Operational
EM14, 17, 18	2005	Decommissioned
EM02, 03, 04	2005	Decommissioned
EM12	2005	Decommissioned
EM16	2005	Decommissioned
EM21	2002	Decommissioned
EM22	2002	Decommissioned
EM23	2007	Decommissioned
EM24, 30, 37, 38	2007	Operational
EM25, 27	2007	Decommissioned
EM26, 29, 35, 36	Incomplete	Approved – Not Drilled
EM28, 31, 32, 33	2007	Decommissioned
EM34	2007	Decommissioned
EM39	2008	Operational
EM40	2006	Decommissioned
GL01	Incomplete	Approved – Not Drilled.
GL02, 04, 06, 07, 08, 09.	2003	Operational
GL05	2003	Decommissioned
GL03, 10	2003	Decommissioned
GL11	2005	Operational
GL12, 13, 14, 15	2006	Operational
GL16	2006	Decommissioned
GL17	2008	Decommissioned
JD01 and 11	1999	Decommissioned
JD02, 03, 04, 05, 06, 07A, 09 and 10	1999	Decommissioned
JD08	Incomplete	Approved under PEL 2 – Not Drilled
JS01, 03 and 04	1999	Decommissioned
JS02	2000	Decommissioned
KP01 and 02	2002	Operational
KP03	2002	Decommissioned



Well Name	Date Drilling Completed	Status of Operation June 2021
KP05	2008	Operational
KP06	2011	Operational
LB01, 02, 03, 04 and 08	Incomplete	Approved – Not Drilled
LB06 and 10	2001	Operational
LB05 and 07	2001	Decommissioned
LB09 and 11	2007	Decommissioned
LP01	Incomplete	Decommissioned
MH01	Incomplete	Decommissioned
MP05	2009	Decommissioned
MP07	2009	Operational
MP08	2009	Decommissioned
MP13, 14, 15, 16 and 17	2003	Operational
MP30	2008	Operational
MP04, 06, 19, 21, 24, 33	Incomplete	Approved – Not Drilled
MP01, 12, 23	2010	Operational
MP05A	2010	Decommissioned
MP02, 03, 09, 11, 22	2011	Operational
MP10	2011	Decommissioned
MP25	2012	Operational
MT01	2004	Decommissioned
MT02, 04, 06	2004	Decommissioned
MT03, 07, 08	2004	Operational
MT05, MT09, MT10	2004	Decommissioned
Ray Beddoe Treatment Plant	2001	Decommissioned and rehabilitated (2008)
RB03, 04 and 05	Incomplete	Approved – Not Drilled
RB07, 09, 10	2007	Operational
RB06, 08	2007	Decommissioned
RB11 and 12	2007	Decommissioned
Rosalind Park Gas Plant	2004	Operating
RP01	Incomplete	Approved – Not Drilled
RP02	2003	Decommissioned
RP04, 11	2003	Decommissioned
RP03, 05, 06	2003	Decommissioned
RP07, 08, 09	2003	Operational
RP10, 12	2003	Decommissioned
SF 01, 02, 03	2009	Operational
SF 05, 07, 08, 09	2010	Operational



Well Name	Date Drilling Completed	Status of Operation June 2021
SF04A, 10	Incomplete	Approved – Not Drilled
SL01, SL04, SL05, SL06, SL07, SL08	Incomplete	Approved – Not Drilled
SL02 and SL03	2006	Operational
SL09	2008	Decommissioned
WG02, 04	2003	Operational
WG01, 03, 05	2003	Decommissioned
WG06	Incomplete	Decommissioned

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
EM12	20/08/2020	Rehabilitation in progress	No further action required
EM14	24/11/2020	Rehabilitation in progress	No further action required
EM17	24/11/2020	Rehabilitation in progress	No further action required
EM18	16/03/2021	Rehabilitation in progress	Continue to monitor
	09/06/2021	Rehabilitation in progress	Continue to monitor
EM22	25/08/2020	Rehabilitation in progress	No further action required
EM25	16/03/2021	Rehabilitation in progress	Continue to monitor
	09/06/2021	Rehabilitation in progress	Continue to monitor
EM27	16/03/2021	Rehabilitation in progress	Continue to monitor
	09/06/2021	Rehabilitation in progress	Continue to monitor
EM31-32	25/08/2020	Rehabilitation in progress	No further action required
EM33	25/08/2020	Rehabilitation in progress	No further action required
GL05-17	17/06/2021	Rehabilitation in progress	No further action required
JD01	25/08/2020	Rehabilitation in progress	No further action required
JD11	25/08/2020	Rehabilitation in progress	No further action required
KP03	25/08/2020	Rehabilitation in progress	No further action required
LB09-11	25/08/2020	Rehabilitation in progress	No further action required
MP05, 05A and 08	17/06/2021	Rehabilitation in progress	No further action required, co-located MP07
MP10	17/06/2021	Rehabilitation in progress	No further action required, co-located MP01, 02, 03 and 09
MT02	24/11/2020	Rehabilitation in progress	No further action required
MT04	24/11/2020	Rehabilitation in progress	No further action required
RB06	08/12/2020	Rehabilitation in progress	No further action required, co-located GL09
RB08	08/12/2020	Rehabilitation in progress	Continue to monitor
	18/02/2021	Rehabilitation in progress	No further action required
RP02	25/08/2020	Rehabilitation in progress	No further action required
RP03	25/08/2020	Rehabilitation in progress	No further action required
RP04	25/08/2020	Rehabilitation in progress	Continue to monitor
	24/11/2020	Rehabilitation in progress	Continue to monitor
	16/03/2021	Rehabilitation in progress	Continue to monitor
	17/06/2021	Rehabilitation in progress	Continue to monitor
RP05	25/08/2020	Rehabilitation in progress	Continue to monitor
	24/11/2020	Rehabilitation in progress	Continue to monitor
	16/03/2021	Rehabilitation in progress	Continue to monitor
	17/06/2021	Rehabilitation in progress	Continue to monitor



RP06	25/08/2020	Rehabilitation in progress	No further action required
RP10	25/08/2020	Rehabilitation in progress	No further action required
RP11	25/08/2020	Rehabilitation in progress	No further action required
RP12	25/08/2020	Rehabilitation in progress	No further action required
SL09	08/12/2020	Rehabilitation in progress	No further action required, co-located SL03
WG01	08/12/2020	Rehabilitation in progress	Continue to monitor
	16/03/2021	Rehabilitation in progress	Continue to monitor
	09/06/2021	Rehabilitation in progress	Continue to monitor
WG03	08/12/2020	Rehabilitation in progress	Continue to monitor
	16/03/2021	Rehabilitation in progress	Continue to monitor
	09/06/2021	Rehabilitation in progress	Continue to monitor
WG05	08/12/2020	Rehabilitation in progress	Continue to monitor
	16/03/2021	Rehabilitation in progress	Continue to monitor
	09/06/2021	Rehabilitation in progress	Continue to monitor



Appendix G. Air Quality Monitoring Results Reported in 2020 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	4	4.3	4.9	5.4	N/A
Dry gas density	Kg/m ³	4	4	1.31	1.31	1.32	N/A
Moisture	%	4	4	4.0	7.1	9.6	N/A
Molecular weight of stack gases	g/g-mole	4	4	29.3	29.4	29.5	N/A
Nitrogen Oxides	mg/m ³	4	4	140	298	450	461
Oxygen (O ₂)	%	4	4	10.5	11.9	13.2	N/A
Sulfuric acid mist and sulphur trioxide (as SO ₃)	mg/m ³	4	4	0.05	0.18	0.31	5.0
Sulphur dioxide	mg/m ³	4	4	0.0	0.0	0.0	7
Temperature	Degrees Celsius	4	4	301	322	339	N/A
Velocity	m/s	4	4	24	27	30	N/A
Volumetric flowrate	m ³ /s	4	4	0.1	3.0	3.4	N/A

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	10.8	12.3	12.9	N/A
Dry gas density	Kg/m ³	4	4	1.33	1.34	1.35	N/A
Moisture	%	4	4	14	16	18	N/A
Molecular weight of stack gases	g/g-mole	4	4	29.9	30.1	30.2	N/A
Nitrogen Oxides	mg/m ³	4	4	50	73	120	461
Oxygen (O ₂)	%	4	4	0.4	0.7	1.4	N/A
Sulfuric acid mist and sulphur trioxide (as SO ₃)	mg/m ³	4	4	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	403	421	461	N/A
Velocity	m/s	4	4	17	20	25	N/A
Volumetric flowrate	m ³ /s	4	4	0.68	0.76	0.91	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	2	10.4	11.4	12.3	N/A
Dry gas density	Kg/m ³	4	2	1.33	1.34	1.34	N/A
Moisture	%	4	2	17	18	18.0	N/A
Molecular weight of stack gases	g/g-mole	4	2	29.8	30.0	30.1	N/A
Nitrogen Oxides	mg/m ³	4	2	040	68	96	461
Oxygen (O ₂)	%	4	2	0.5	0.6	0.7	N/A
Sulfuric acid mist and sulphur trioxide (as SO ₃)	mg/m ³	4	2	0.24	0.32	0.39	5.0
Sulphur dioxide	mg/m ³	4	2	0.0	0.0	0.0	7
Temperature	Degrees Celsius	4	2	388	393	398	N/A
Velocity	m/s	4	2	18	18	18	N/A
Volumetric flowrate	m ³ /s	4	2	0.71	0.71	0.71	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	3.9	4.6	5.3	N/A
Dry gas density	Kg/m ³	4	4	1.31	1.31	1.32	N/A
Moisture	%	4	4	6.4	7.9	8.5	N/A
Molecular weight of stack gases	g/g-mole	4	4	29.3	29.4	29.5	N/A
Nitrogen Oxides	mg/m ³	4	4	67	78	92	110
Oxygen (O ₂)	%	4	4	13.2	13.5	13.8	N/A
Sulfuric acid mist and sulphur trioxide (as SO ₃)	mg/m ³	4	4	0.06	0.23	0.37	3.5
Sulphur dioxide	mg/m ³	4	4	0.0	0.0	0.0	35
Temperature	Degrees Celsius	4	4	271	280	294	N/A
Velocity	m/s	4	4	3.1	4.3	5.5	N/A
Volumetric flowrate	m ³ /s	4	4	0.08	0.10	0.13	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	12.4	14.8	15.8	N/A
Dry gas density	Kg/m ³	4	4	1.35	1.37	1.37	N/A
Moisture	%	4	4	30	43	52	N/A
Molecular weight of stack gases	g/g-mole	4	4	30.2	30.5	30.7	N/A
Nitrogen Oxides	mg/m ³	4	4	0.00	0.00	0.00	13
Oxygen (O ₂)	%	4	4	0.0	0.5	1.8	N/A
Sulfuric acid mist and sulphur trioxide (as SO ₃)	mg/m ³	4	4	0.17	0.45	0.67	35
Sulphur dioxide	mg/m ³	4	4	0.00	0.00	0.00	1042
Temperature	Degrees Celsius	4	4	70	78	82	N/A
Velocity	m/s	4	4	0	1.4	3.0	N/A
Volumetric flowrate	m ³ /s	4	4	0.00	0.00	0.00	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	1.5	2.0	2.4
Molecular weight of stack gases	g/g-mole	4	4	29.0	29.0	29.0
Odour	Odour units	4	4	0	133	220
Oxygen (O ₂)	%	4	4	20.9	20.9	20.9
Temperature	Degrees Celsius	4	4	25	30	33
Velocity	m/s	4	4	5.6	6.5	7.0
Volumetric flowrate	m ³ /s	4	4	0.14	0.16	0.17



Appendix H. Assessable Pollutant Results – RPGP

Assessable Pollutant	Assessable Load (Kg)	Load Limit (Kg)
Benzene	22.098	47
Benzo(a) pyrene	0.001	0.27
Fine Particulates	7.751	460
Hydrogen Sulphide	0.331	1.60
Nitrogen Oxides	26,431.107	103,000.00
Nitrogen Oxides – Summer	7206.672	No limit stipulated
Sulphur Oxides	0.057	3000.00
Volatile Organic Compounds	151.313	33,000.00
Volatile Organic Compounds-Summer	37.828	No limit stipulated



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

Noise Monitoring Undertaken	Summary of Results
Attended noise monitoring 6 August 2020	Measured noise levels complied with the noise criteria for the sensitive receivers during the day, evening, and night-time periods.
Attended noise monitoring 8 December 2020	Measured noise levels complied with the noise criteria for the sensitive receivers during the day, evening, and night-time periods.
Attended noise monitoring 30 March 2021	Measured noise levels complied with the noise criteria for the sensitive receivers during the day, evening, and night-time period.
Attended noise monitoring 25 June 2021	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 2019-20 Annual Noise Compliance Monitoring Report)	All monitoring showed the RGP 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 J. Flare Event Monitoring

The RGP flare log is provided in this Appendix from July 2020 to June 2021.

Date	Time	Duration (minutes)	Time Period (Day/Night)	No. Compressor on line	Cause of Flare Occurrence
21/08/2020	02:12-02:30	18	Night	None	Spill valve/Plant Shutdown
26/08/2020	06:46-07:41	55	Day	None	Spill valve/Plant Shutdown
30/08/2020	06:31-09:16	165	Day	None	Spill valve/External Power failure
16/09/2020	11:41-11:53	12	Day	None	Spill valve/Plant Shutdown
21/09/2020	00:24-00:40	16	Night	None	Spill valve/Plant Shutdown
25/09/2020	10:48-12:27	99	Day	None	Spill valve/Plant Shutdown (External)
12/11/2020	03:54-04:48	14	Night	None	Spill valve/Plant Shutdown
24/03/2021	21:46-21:58	12	Night	None	Spill valve/Plant Shutdown
21/04/2021	09:16-10:30	74	Day	None	Spill valve/Plant Shutdown
23/04/2021	09:01-11:07	126	Day	None	Spill valve/Plant Shutdown



Flare Event	Total Frequency (once per)*	2020-21 Average Frequency (once per)	Night-time Frequency (once per)*	2020-21 Average Night-time Frequency (once per)	2020-21 Average Gas Flow Rate per flare event (mmscf/d)	2020-21 Average Estimated Lux Level (Lx) of flare event if viewed from Homestead
Spill Valve	5.8 days	36.5 days	11.4 days	91.25 days	0.4	0.03
Compressor Blowdown (ESD)	21 days	-	42 days	-	-	-
Compressor Blowdown (Shutdown & Unload)	8 days	-	16 days	-	-	-
PSV Discharge	60 to 120 days	-	120 to 240 days	-	-	-
PSV Suction	60 to 120 days	-	120 to 240 days	-	-	-

* = as estimated in URS, 2003

Flare Event	Total Frequency ³ (once per)	Night Time Frequency ⁵ (once per)	Total Duration (each event)	Gas Flow Rate mmscf/d ¹	Estimated Lux Level (Lx) of flare if viewed from Homestead ⁶
1 Spill Valve	5.8 days	11.4 days	4.2 hours	0.4	0.03
2 Compr. Blowdown (ESD)	21 days	42 days	15 minutes	Initially 7.35 reducing to 0.5 at 15 minutes	0.56
3 Compr. Blowdown (Shut down & Unload)	8 days	16 days	8 minutes	Initially 1.35 reducing to 0.57 at 8 minutes	0.11
4 PSV ² Discharge ⁴	60 to 120 days	120 to 240 days	0.5 minutes	20	1.51
5 PSV ² Suction ⁴	60 to 120 days	120 to 240 days	0.5 minutes	30	2.27

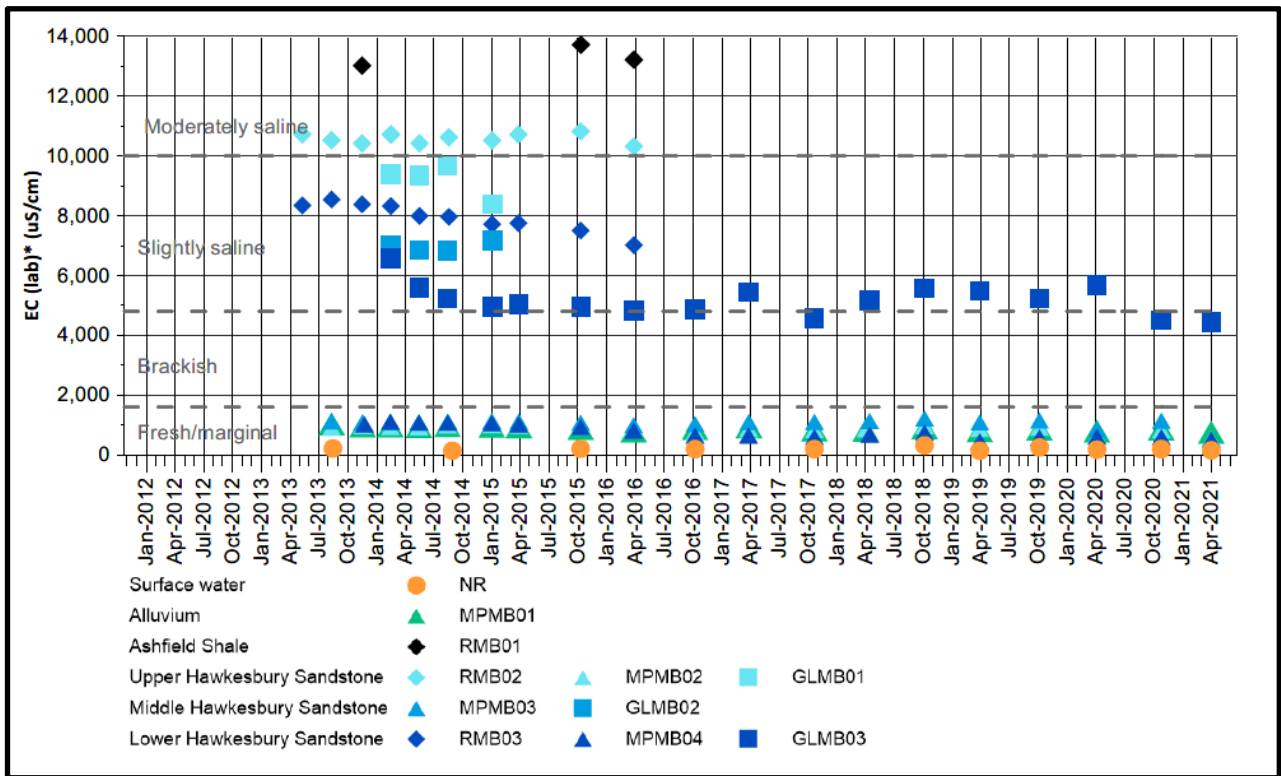
Notes:

1. mmscf/day is 1million standard cubic feet per day.
2. PSV = Pressure Safety Valve.
3. The frequency of each event accounts for all three compressors.
4. This is a highly conservative estimate and in practice such events are rare.
5. This is based on flare events occurring 50% during day light hours and 50% during night time hours (i.e. sunrise at 6 am, sunset at 6pm).
6. These estimated Lux levels (from Bassett) are conservative as they do not take account of the screen effects of the earth bunding, the evaporation pit or the trees along Menangle Creek.

Source: URS (2003) "Sydney Gas Proposal Stage 2 Coal Seam Methane Project Visual Assessment of Lighting and Flare" prepared by URS for Sydney Gas dated 6 November 2003."

Appendix K. Groundwater Monitoring Results

Electrical conductivity results from dedicated monitoring bores and Nepean River





Appendix L. Response to DPI&E and comments on 2019-20 AEPR

No comments were provided to AGL in relation to the 2019-20 AEPR.





Appendix M. 2018-2020 Independent Audit Report – Non-Conformances
Corrective Actions Register

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Appendix N. Development Approvals Compliance Summary