Annual Environmental Performance Report (AEPR) - Camden Gas Project

July 2007 to June 2008

AGL Gas Production (Camden) Pty Ltd

Lot 35 Medhurst Road
Menangle, NSW, 2568

1 September 2008

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Introduction Section 1

1.1 Introduction and History of the Project

This Annual Environmental Performance Report (AEPR) has been prepared by AGL Gas Production (Camden) Pty Ltd ('AGL') to meet the reporting requirements for the period July 2007 to June 2008.

AGL is the Operator of the Camden Gas Project Joint Venture between AGL and Sydney Gas (Camden) Operations Pty Ltd ('Sydney Gas'). AGL commenced operations of the Joint Venture on 1 February 2006, which is comprised of 50:50 undivided interests of AGL and Sydney Gas.

Located 65 kilometres (km) south-west of Sydney in the Camden region of NSW, Sydney Gas developed the Camden Gas Project comprising the first two Petroleum Production Leases (PPL) in New South Wales.

Exploration activities in the Camden 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 successful first gas delivery into the AGL distribution network in May 2001, lead to Sydney Gas applying for Development Consent and 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 commenced under PPL 4 on 16 December 2004 and the project is currently in an expansion phase, including PPL 5 and PPL 6 (granted on 29 May 2008).

As part of the progressive development of this gas field, wells have been drilled and proven in Wandinong, Glenlee, Menangle Park, Rosalind Park, Mt Taurus, Elizabeth Macarthur Agricultural Institute (EMAI) and Sugarloaf Farm. Further works are planned in Spring Farm, and Menangle Park. Razorback and additional EMAI, Kay Park and Menangle Park wells were drilled and completed as part of the SIS program during the reporting period.

In February 2007, the RBTP was shut down and the wells were connected to the Rosalind Park Gas Plant (RPGP).

The Camden Gas Project Production Operations Plan (POP) together with the Environmental, Health and Safety Management Plan (EHSMP) form the basis for ongoing operations, environmental and OH&S management and monitoring of the Project, as required under all five PPLs issued by the Department of Primary Industries (DPI) for the Project. AGL is in the final stages of developing an Environmental Management System and preparing a separate Environmental Management Plan and Safety Management Plan to replace the EHSMP.

During the reporting period AGL drilled exploration core holes in Cecil Park, Raby and Denham Court. These core holes will assist in refining future development areas of the project. These exploration core holes are not addressed in this report as they are not addressed by a Development Consent requiring an AEPR, or Petroleum Production Lease requiring an AEMR.

Field development during the reporting period has included drilling 10 wells within Kay Park, Menangle Park, Sugarloaf, the EMAI and Razorback. These wells have progressively been tied into the RPGP.

An approximate total of 17 km of gas gathering line was constructed and commissioned for use across the EMAI, Razorback, Glenlee and Sugarloaf fields during the reporting period.

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A new access road for the RPGP was also constructed during the reporting period.

An Environmental Assessment application is currently being assessed by the NSW Government for the construction and operation of gas wells within the Spring Farm and Menangle Park area.

Ongoing environmental management improvements have included the installation and operation of an oily water separation and treatment facility at the RPGP, continued recycling of produced water for drilling operations, enhancements to chemical storage and management, and planting of 2,195 native trees parallel to the RPGP access road.

1.2 Purpose of Annual Environmental Performance Report

This Annual Environmental Performance Report (AEPR) has been prepared to meet the reporting requirements of the NSW Department of Planning (DoP) and the NSW Department of Primary Industries (DPI) for the AGL Camden Gas Project located in the Camden, Campbelltown and Wollondilly LGAs for the period July 2007 to June 2008.

The requirements of the DoP and the DPI are provided in Section 1.2.1 and 1.2.2 below.

1.2.1 Requirements of the NSW Department of Planning (DoP)

The requirement for an AEPR is set out in the following Development Consent Conditions:

- DA No. 15-1-2002i 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. 282-6-2003i dated 16 June 2004, Schedule 5 CoC No. 5;
- DA No. 183-8-2004 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;
- DA No. 171-7-2005 dated 25 March 2006, Schedule 4 CoC No. 4;
- PA No. 06_0137 dated 9 December 2006, Schedule 4 CoC No. 3; and
- PA No. 06_0138 dated 9 December 2006, Schedule 4 CoC No. 3.

The requirements detailed in the above Development Consent Conditions for an AEPR correlate, with only minor differences in wording between the different approval documents.

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 DoP and the DPI.

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

a) the standards, performance measures and statutory requirements the development is required to comply with;

b) an assessment of the environmental performance of the development to determine whether it is complying with these standards, performance measures, and statutory requirements;

c) reporting against the implementation of the Project Commitments Register;

d) copy of the Complaints Register for the preceding twelve month period and indicating what actions were (or are being) taken to address these complaints;

e) indication of what actions were taken to address any issue and/or recommendation raised by the Community Consultative Committee;

f) provision of the detailed results of all the monitoring required by this consent;

g) review of the results of this monitoring against:

- impact assessment criteria;
- monitoring results from previous years; and
- predictions in the EIS;

h) identify any non-compliance during the year;

i) identify any significant trends in the data; and

j) 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.

This document has been prepared to address the requirement for an AEPR, for the period July 2007 to June 2008, in each of the above DAs as well as Project Approvals 06_0138 and 06_0137.

1.2.2 Requirements of the NSW Department of Primary Industries (DPI)

This AEPR also fulfils the requirements of the NSW Department of Primary Industries (DPI).

The requirement for an Annual Environmental Management Report (AEMR) is set out in the following Petroleum Production Leases (PPLs) issued by the NSW Minister for Mineral Resources:

- PPL No.1 issued 2 September 2002, Clause 4;
- PPL No.2 issued 10 October 2002, Clause 4;
- PPL No.4 issued 6 October 2004, Clause 2B;
- PPL No. 5 issued 28 February 2007 Clause 3; and
- PPL No. 6 issued 29 May 2008, Clause 3.

The above PPLs require the preparation of an AEMR in accordance with the DPI's guidelines.

This AEPR has been prepared in accordance with the DPI guideline 'Guidelines to the Mining, Rehabilitation and Environmental Management Process (dated January 2006). The headings in this AEPR are provided in accordance with the DPI guideline for formatting AEMRs. Where information required under a heading is not applicable to the Camden Gas Project, the heading has been kept and the applicability stated.

The Plans required by the DPI guidelines are not relevant to the operation of the Camden Gas Project. A plan showing the layout of the PPLs is attached as Figure 1.

1.3 Camden Gas Project Area Details

The details of the each area of the Camden Gas Project are provided in Table 1-1.

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Figure 1 PPL Locations

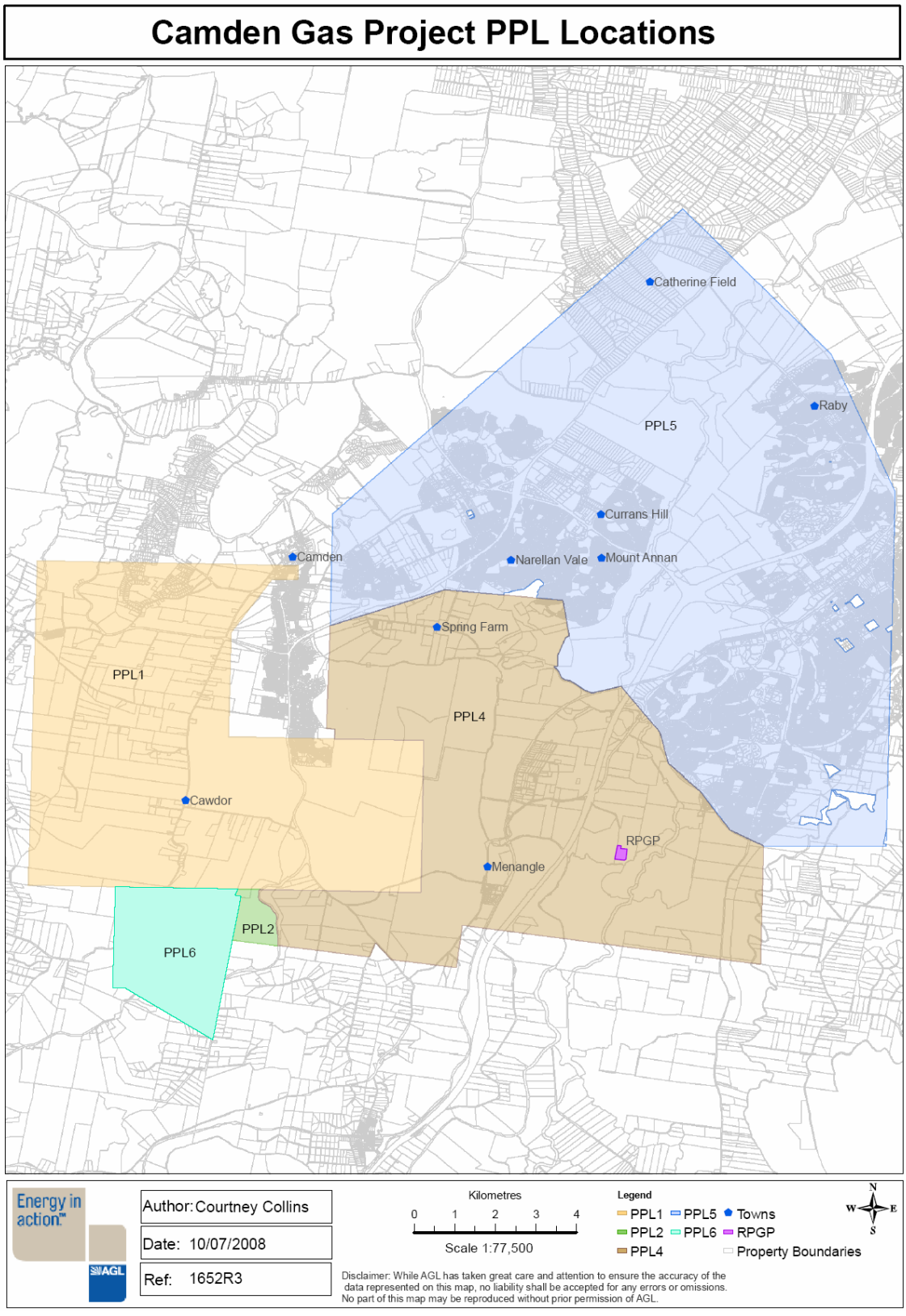

Table 1-1 Camden Gas Project Property Details

Area	Well Numbers	Property Lot Number	Deposited Plan No.	DA No.
Apap	AP 01	11	664430	15-1-2002i
	AP 02* & AP03*	11	664430	15-1-2002i (Mod 4 July 07)
Campbelltown Council – Menangle Park	Gas gathering system	3 7 1	236059 787284 249393	282-6-2003i (Mod 26 August 2004)
	Water storage tank	2	236059	282-6-2003i (Mod 26 August 2004)
Joe Stanley	JS 01, JS 03 & JS 04	2	14701	15-1-2002i
Johndilo	JD 01, JD 04, JD 05, JD 08* & JD 11	64	785367	15-1-2002i
Lipsombe	LP 01	100	793384	15-1-2002i
Logan Brae	LB 05- LB 07 & LB 09 – LB 11	6	808569	15-1-2002i
Landcom	Gas gathering system	2 X D 2	790254 378264 19853 737485	282-6-2003i (Mod 26 August 2004)
Mahon	MH 01	5	773423	15-1-2002i
Kay Park	KP 01 – KP 03	2	594242	246-8-2002i
	KP05 & KP06*	2	594242	246-8-2002i (Mod 4 July 2007)
Ray Beddoe	Ray Beddoe Treatment Plant	11	664430	15-1-2002i
EMAI	EM 01 - EM 08	11	658458	282-6-2003i (Mod 26 August 2004)
	EM 09, EM11, EM12, EM 14-EM 17	PT1	168893	282-6-2003i (Mod 26 August 2004)
	EM 10 & EM 13	1	726446	282-6-2003i (Mod 26 August 2004)
	EM 18-EM 20	1	130288	282-6-2003i
	EM 21 (EM 1H), & EM 22 (EM 1V)	1	1067320	9-1-2005
	EM 23-26*, 27, 29*-32	1	130288	PA 06_0138
	EM 28	1	1067320	PA 06_0138
	EM 33-35*, 36*	2	1050479	PA 06_0138
	EM 37	2	1050479	PA 06_0138 (Mod 6 August 2007)
	EM 38	1	130288	282-6-2003i (Mod 4 July 2007)
	EM 39	2	1050479	282-6-2003i (Mod 11 April 2008)
	Gas gathering system	1 1	130288 726446	282-6-2003i (Mod 26 August 2004)

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Area	Well Numbers	Property Lot Number	Deposited Plan No.	DA No.
		11 PT1	658458 168893	
Glenlee	GL 02, GL 04	501	869561	9-1-2005
	GL 05, GL 7-GL 9	1101	883495	282-6-2003i
	GL 06	2	1076817	9-1-2005
	GL 10	1102	883495	282-6-2003i
	GL 11	501	869561	9-1-2005
	GL 12, GL13	501	869561	9-1-2005
	GL14, GL15	1102	883495	282-6-2003 (Mod 16 May 2006)
	GL 16	1101	883495	282-6-2003 (Mod 16 May 2006)
	GL 17	1101	883495	282-6-2003 (Mod 11 April 2008)
	Gas gathering system	1102 & 1101	883495	282-6-2003i (Mod 26 August 2004)
Menangle Park	MP 13-MP 17	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 (Mod 26 August 2004)
	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 (Mod 2 May 2007)
	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)

Area	Well Numbers	Property Lot Number	Deposited Plan No.	DA No.
Wandinong	WG 01 & WG 04	24	4450	282-6-2003i (Mod 26 August 2004)
	WG 02, WG 03, WG 05 & WG 06	23	4450	282-6-2003i (Mod 26 August 2004)
	Gas gathering system	23 & 24	4450	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

* Note these wells have been approved but not yet drilled.

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1.4 Project Details and Contacts

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

Table 1-2 Project Details and Contacts

Project Details		
Mine/project name:	Camden Gas Project	
Titles / Consents:	Refer to Table 2-2	
Expiry Date of Titles / Consents(s)	Refer to Table 2-2	
Titleholder	AGL Gas Production (Camden) Pty Limited and Sydney Gas (Camden) Operations Pty Ltd	
Operator	AGL Gas Production (Camden) Pty Limited	
Project Manager Details		
Contact name	Mike Roy	Tofazzel Haque
Position	Head of Field Development	Head of Production
Contact address	AGL Rosalind Park Gas Plant, Lot 35, Medhurst Road, Menangle, NSW, 2568	
Telephone	02 4633 5200	02 4633 5200
Mobile	0408 027 910	0408 110 689
Facsimile	02 4633 5201	02 4633 5201
Email	mroy@agl.com.au	thaque@agl.com.au
Reporting officer details		
Contact name	Aaron Clifton - Environment & Safety Officer	
Contact address	AGL Rosalind Park Gas Plant, Lot 35, Medhurst Road, Menangle, NSW, 2568	
Telephone	02 4633 5200	
Mobile	0408 001 928	
Facsimile	02 4633 5201	
Email	aclifton@agl.com.au	
Other Contact Details		
24 hour hotline	02 9963 1318	
POP and AEMR Reporting Periods		
POP Commencement Date	*A revised POP was prepared and was under discussion with DPI during the reporting year.*	
POP Period End Date		
AEMR Commencement Date	July 2007	
AEMR Period End date	June 2008	

1.5 Format of Annual Environmental Performance Report

This AEPR is formatted as follows:

- Section 1 - is introductory and provides the background to the AEPR;
- Section 2 - lists the environmental regulatory requirements relevant to the Camden Gas Project;
- Section 3 - describes the operations during the reporting period;
- Section 4 - outlines the environmental management and performance of the Camden Gas Project;
- Section 5 – describes the rehabilitation undertaken at the site;
- Section 6 – provides an update to the Project Commitments Register (Compliance Register);
- Section 7 – describes the stakeholder engagement that has been undertaken during the reporting period; and
- Section 8 – lists non-conformances identified and actions to address these.

Section 2 Environmental Standards, Performance Measures and Statutory Requirements

This section provides a list of the environmental regulatory requirements relevant to the Camden Gas Project to June 2008.

2.1 Consents, Leases and Licences

Seven Development Applications (DAs) have been approved for the Camden Gas Project under Section 80 of the Environmental Planning and Assessment Act 1979 and two Project Approvals. Table 2-1 Provides a description of the activities for which each of the DAs and Project Approvals has been issued.

Table 2-1 Description of Activities Described by Issued Development Applications (DAs)

Development Application No.	Description of Proposed Development
DA No. 15-1-2002i, dated 23 July 2002	The Minister for Planning (the Department of Planning – DoP) determined the development application for Stage 1 in accordance with Section 76A, Section 80, and Section 91 of the Environmental Planning and Assessment Act 1979 by granting consent to the proposed development referred to as "The Camden Gas Project Stage 1". The Conditions of Development Consent for DA No. 15-1-2002i-I dated 23 July 2002 relate to the Camden Gas Project Stage 1 (the 'Development') issued to Sydney Gas Operations Ltd. The Development Consent describes the Development as: *- "The continued operation of the existing 20 production wells;* *- Operation of 5 additional wells not yet completed and/or drilled;* *- Operation of the existing and proposed gas gathering system;* *- Operation of the existing gas treatment plant;* *- Production of up to 93,000 GL/month from the treatment plant;* *- Sale and distribution of gas to the AGL gas network; and* *- Operation of the existing site office and pipeyard depot."*
	A modification to this DA, dated 16 May 2006, was issued for the following: *- "Construction, drilling and operation of a directional well from LB09".*
	A modification to this DA, approved 9 February 2007, was issued for the following: -"*re-drilling of wells Apap 01and Mahon 01."*
	A modification to this DA, dated 4 July 2007, was issued for the following: *-"construction, drilling and operation of 2 surface to in-seam wells (AP02/AP03) at AP01"*
DA-246-8-2002i – dated 20 September 2002	The Minister for the NSW Department of Infrastructure, Planning and Natural Resources (now Department of Planning – DoP) determined the development application in accordance with Section 80 of the Environmental Planning and Assessment Act 1979. The Conditions of Development Consent for DA No. DA-246-8-2002i dated 20 September 2002, relate to the Camden Gas Project Stage 1 (the 'Development'). The Development Consent describes the proposed development as: *-"The connection of 3 existing wells (KP1, KP2, and KP3) to the Ray Beddoe Treatment Plant, and the continued production and sale of methane gas from the 3 wells."*
	A modification to this DA, dated 4 July 2007, was issued for the following: *-construction, drilling and operation of 2 surface to inseam wells (KP05 and KP06) at KP01"*

Environmental Standards, Performance Measures and Statutory Requirements

Development Application No.	Description of Proposed Development
DA No. 282-6-2003-i – 16 June 2004	The Minister for Urban Affairs and Planning (now Department of Planning – DoP) determined the development application for Stage 2 in accordance with Section 76A, Section 77A, and Section 91 of the Environmental Planning and Assessment Act 1979 by granting consent to the proposed development referred to as "The Camden Gas Project Stage 2". The Conditions of Development Consent (reference 112467721) for DA No. 282-6-2003-i dated 16 June 2004 relate to the Camden Gas Project Stage 2 (the 'Development') issued to Sydney Gas Operations Ltd. The Development Consent describes the Development as: *- "construction and drilling of 20 wells on the EMAI site;* *- Operation and production of gas from the existing (drilled) 23 wells and 20 wells to be constructed (a total of 43 wells);* *- Construction and operation of the gas gathering system;* *- Construction and operation of the gas treatment plant, associated workshop and office facilities; and* *- Production of up to 14.5 petajoules per annum from the gas treatment plant."*
	A modification to this DA, dated 26 August 2004, was issued to include additional land that was emitted from the development consent
	A modification to this DA, dated 16 May 2006, was issued for the following: *- "Construction, drilling and operation of 1 directional well from GL7 and 2 directional wells from GL10".*
	A modification to this DA, approved 22 October 2006, was issued for the following: *-"Construction, drilling and operation of 1 directional well (GL16) from GL7 and 1 directional well (GL15) and 1 Surface to in-seam well (GL14) from GL10"*
	A modification to this DA, approved 1 November 2006, was issued for the following: *-"construction, drilling and operation of 1 directional well (GL16) from GL7 and 2 Surface to in-seam wells (GL14 and GL15) from GL10."*

Section 2 Environmental Standards, Performance Measures and Statutory Requirements

Development Application No.	Description of Proposed Development
	A modification to this DA, approved 2 May 2007 was issued for the following: - relocation of the Rosalind Park Gas Plant access road
	A modification to this DA, dated 4 July 2007, was issued for the following: *-"construction, drilling and operation of 1 surface to in-seam well (EM38) at EM20 and upgrading (twinning) of the gas gathering line between MP14-GL10, GL10-GL05, GL05-GL07 and RP03-RP08"*
	A modification to this DA, dated 11 April 2008, was issued for the following: *"construction, drilling and operation of 2 surface to in-seam wells EM39 (from EM02) and GL17 (from GL05), upgrading (twinning) of the gas gathering line from EM39 to the junction of the gas gathering line and road to the EM03 well, and connection of the new wells to the existing gas gathering system."*
DA-183-8-2004i – 16 December 2004	The Minister for the NSW Department of Infrastructure, Planning and Natural Resources (now Department of Planning – DoP) determined the development application in accordance with Section 80 of the Environmental Planning and Assessment Act 1979. The Conditions of Development Consent for DA No. DA-183-8-2004i dated 16 December 2004 relate to the Camden Gas Project Stage 2 (the 'Development'). The project involves the following: - Connection of 15 existing coal seam methane wells to the Rosalind Park Gas Plant from the Mount Taurus and Menangle Park properties, for the production of methane gas; and - Construction of a Dam at the MT1 gas well site.
	A modification to this DA , dated 4 July 2007, was issued for the following: *"construction, drilling and operation of 1 surface to in-seam well (MP30) at MP13 and upgrading (twinning) of the gas gathering line between MP13 and MP14."*
DA 9-1-2005 – 26 May 2005	The Minister for the NSW Department of Infrastructure, Planning and Natural Resources (now Department of Planning – DoP) determined the development application in accordance with Section 80 of the Environmental Planning and Assessment Act 1979. The Conditions of Development Consent for DA No. DA-9-1-2005 dated 26 May 2005, relate to the Camden Gas Project Stage 2 (the 'Development'). The Development Consent describes the proposed development as: *- "Construction and drilling of well GL11;* *- Construction of a gas gathering system between four wells at Glenlee and two wells at EMAI;* *- Connection of 6 coal seam methane wells to the previously approved Stage 2 Camden Gas Project – Gas Treatment Plant, for the production of methane gas."*
	A modification to this DA, dated 16 May 2006, was issued for the following: *- "Construction, drilling and operation of a directional well from each of GL02 and GL11."*
	A modification to this DA, dated 4 July 2007, was issued for the following: "upgrading (twinning) of the gas gathering line between GL02 and GL05."

Environmental Standards, Performance Measures and Statutory Requirements

Development Application No.	Description of Proposed Development
DA 75-4-2005 – 07 October 2005	The Minister for the NSW Department of Infrastructure, Planning and Natural Resources (now Department of Planning – DoP) determined the development application in accordance with Section 80 of the Environmental Planning and Assessment Act 1979. The Conditions of Development Consent for DA No. DA-75-4-2005 dated 07 October 2005 relate to the Camden Gas Project Stage 2 (the 'Development'). The Development Consent describes the proposed development as: *- "Construction and drilling of 7 wells;* *- Construction of a gas gathering system and access roads;* *- Connection of the wells to the Stage 2 Camden Gas Project – Gas Treatment Plant; and* *- Production of methane gas."*
	A modification to this DA, dated 4 July 2007, was issued for the following: *"construction and drilling of 9 wells, including 2 surface to in-seam wells (SL08 and SL09) at SLo3."*
DA 171-7-2005 – 2006	The Minister for Planning determined the application in accordance with Section 80 of the Environmental Planning and Assessment Act 1979. The Conditions of Consent for DA 171-7-2005 relate to the El Bethel wells. The project involves the following: - Construction and drilling of 10 wells (EB01 – EB10); - Construction of a gas and water gathering system and access roads; - Connection of the wells to the Rosalind Park Gas Plant; and - Production of methane gas.
Project Approval 06_0137 – 9 December 2006	The Minister for Planning approved the Project under Section 75J of the Environmental Planning and Assessment Act 1979. The Conditions of Consent for Project Approval 06_0137 dated 9 December 2006 relate to the Razorback Wells (RB03-RB12). The project involves the following: - Construction and drilling of wells RB03-RB12 and gas gathering lines.
Project Approval 06_0138 – 9 December 2006	The Minister for Planning approved the Project under Section 75J of the Environmental Planning and Assessment Act 1979. The Conditions of Consent for Project Approval 06_0138 dated 9 December 2006 relate to the Elizabeth Macarthur Institute Wells (EM23-EM36). The project involves the following: - Construction and drilling of wells EM23-36 and gas gathering lines.
	A modification to this Approval, dated 6 August 2007, was issued for the following: *"One additional directional well at an existing well, changing an approved but not yet constructed well to a directional well, connection of the wells to the existing gas gathering system and production of coal seam methane gas."*

A summary of the status of the above approved works are described in Section 3.1 of the AEPR.

The standards, performance measures and statutory requirements with which the Camden Gas Project are required to comply with are outlined in the consents, leases and licences listed in Table 2-2 below.

Note that the requirements of the Environment Protection Licence and 3A Permit requirements are incorporated into the Development Consent Conditions.

Section 2 Environmental Standards, Performance Measures and Statutory Requirements

Table 2-2 Consents, Leases and Licences – Camden Gas Project

Requirement	Date of Requirement
Petroleum Exploration Licence No.2 (PEL), issued by the Department of Mineral Resources (now the Department of Primary Industries)	27 March 2006 to 28 March 2011
PPL No.1, issued by the Department of Mineral Resources (now the Department of Primary Industries)	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 the Department of Primary Industries)	10 October 2002 (for a period of 21 years)
PPL No.4, issued by the Department of Mineral Resources (now the Department of Primary Industries)	6 October 2004 (for a period of 21 years)
PPL No.5, issued by the Department of Mineral Resources (now the Department of Primary Industries)	28 February 2007 (for a period of 21 years)
PPL No. 6, issued by the Department of Primary Industries	29 May 2008 (for a period of 21 years)
Conditions of Consent for DA 15-1-2002i (file no. S00/00945), issued by the NSW Department of Planning. The requirements of the Environment Protection Licence have been incorporated into this Condition of consent	23 July 2002 (for a period of 21 from date of granting of the production lease). If after 5 years of the date of this consent any well that is subject of this consent has not yet been drilled or completed, then the applicant shall surrender the approval for that well. The following modifications have been issued to this DA: - modification dated 16 May 2006 - modification dated 9 February 2007 -modification dated 4 July 2007
Conditions of Consent for DA 246-8-2002i (file no. S02/01615), issued by the NSW Department of Planning	20 September 2002 (for a period of 21 from date of granting of the production lease). A notice of modification was issued on the 4 July 2007.
Conditions of Consent for DA 282-6-2003-i, issued by the NSW Department of Planning. The requirements of the Environment Protection Licence and 3A Permit have been incorporated into this Condition of consent	16 June 2004 (for a period of 21 years). The following modifications have been issued to this DA: - modification dated 26 August 2004 - modification dated 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 2007
Conditions of Consent for DA-183-8-2004i, issued by the NSW Department of Planning	16 December 2004 (for a period of 21 years). A notice of modification was issued on the 4 July 2007.
Conditions of Consent for DA 9-1-2005, issued by the NSW Department of Planning	26 May 2005 (for a period of 21 years). The following modifications have been issued to this DA: - modification dated 16 May 2006 -modification dated 4 July 2007

Environmental Standards, Performance Measures and Statutory Requirements

Requirement	Date of Requirement
Conditions of Consent for DA 75-4-2005, issued by the NSW Department of Planning	07 October 2005 (for a period of 21 years or expiry date of PPL No.4) A notice of modification was issued on the 4 July 2007.
Conditions of Consent for DA 171-7-2005, issued by the NSW Department of Planning	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 NSW Department of Planning	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 NSW Department of Planning	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.
Environment Protection Licence No.11713, issued by the Environment Protection Authority, incorporated into the Department of Environment Conservation and Climate Change (DECC)	Issued January 2003, anniversary date 17 September, review date 12 September 2011. This Licence is now dormant.
Environment Protection Licence No.12003, issued by the Environment Protection Authority, incorporated into the Department of Environment Conservation and Climate Change (DECC), for hazardous, industrial or group A waste generation or storage (>100-500T) and petroleum refining (>200,000 to 500,000 T)	Issued September 2003, anniversary date 22 December, review date 22 December 2007. Note: The Licence has not yet been reviewed.
Production Operations Plan (POP)	2 November 2004 (for a period of 7 years)
Pipeline Licence No.30, issued by Department of Energy, Utilities and Sustainability, under NSW Pipelines Act 1987	19 May 2004 (for a period of 20 years)
Bore Water Licence relating to Lot 6 DP 808569 (Licence No: 10BL160600), issued by Department of Natural Resources	24 September 2004 to 23 September 2009
Bore Water Licence relating to Lot 62 DP 735555 (Licence No: 10BL159415), issued by Department of Natural Resources	9 June 2005 to 8 June 2010

WorkCover Notification of Storage of Dangerous Goods

There is no requirement to notify WorkCover regarding the storage of Dangerous Goods at the RPGP due to the minor quantities of Dangerous Goods stored on site.

Section 3 Operations During the Reporting Period

This section provides a description of the operation undertaken at the Camden Gas Project and the status of the project as of June 2008.

3.1 Description of Operations from July 2007 to June 2008

3.1.1 Development

During this reporting period (July 2007 to June 2008), development associated with the Camden Gas Project comprised of the following:

Drilling

- 10 new wells were drilled.

Gathering Line Installation

- Approximately 17 km of gas gathering line was constructed and commissioned across the EMAI, Razorback, Glenlee, Menangle Park and Sugarloaf fields.

Rosalind Park Gas Plant Compressors

- Compressors No.2 was commissioned in July 2007 and operated for 4,959 hours during the reporting period.
- Compressor No.3 was commissioned in August 2007 and operated for 4,409 hours during the reporting period.
- Compressor No.1 operated for 8,211 hours during the reporting period.

Ray Beddoe Treatment Plant Shutdown and Decommissioning

- A Site Rehabilitation Management Plan was prepared for the RBTP and submitted to the DoP and DECC. The plan was approved by the DoP on the 21 April 2008 and DECC on the 17 June 2008.

Land Access and Approvals

- Exploration Drill Hole approvals received for Elderslie 2 and Razorback 2 (April 2008).
- An Environmental Assessment report was prepared and lodged with the DoP for the construction and operation of gas wells within the Spring Farm and Menangle Park area (September 2007).
- Development Consent modifications were received for the construction drilling and operation of SIS wells in Apap, Kay Park, EMAI, Glenlee, Menangle Park and Sugarloaf (July 2007 and April 2008).
- Development consent modifications were received for the twinning of the gas gathering line on the Menangle Park, Glenlee, Rosalind Park, and EMAI fields (July 2007 and April 2008).
- PPL No. 6 was issued on the 29 May 2008.

The status of operations as of June 2008 are summarised in Table 3-1 below. Changes from the previous reporting period are shaded in grey.

Operations During the Reporting Period

Section 3

Table 3-1 Current Status of Operations (June 2008)

Well Name	Date Completed	Status June 2008
AP01	2000	Drilled
EB01-10	Incomplete	Approved – Not Drilled
EM01	Incomplete	Plugged and Abandoned
EM02, 05, 07, 09, 10, 11, 12, 13, 14, 15, 17, 18, 19 and 20	2005	Drilled
EM03, 04, 06, 08 and 16	2005	Drilled
EM21 and 22	2002	Drilled
EM23	2007	Drilled
EM24, 25, 27, 28, 30, 33, 34, 37, 38	2007	Drilled
EM26, 29, 35, 36	Incomplete	Approved – Not Drilled
EM31, 32	2007	Drilled
EM39	Incomplete	Currently Drilling
EM 40	2006	Drilled
GL01	Incomplete	Approved – Not Drilled.
GL02, 04, 05, 06, 07, 08, 09 and 10.	2003	Drilled
GL03	2003	Plugged and Abandoned
GL11	2005	Drilled
GL12, 13, 14, 15 and 16	2007	Drilled
GL17	Incomplete	Approved – Not Drilled
JD01 and 11	1999	Drilled
JD02, 03, 06, 07A, 09 and 10	1999	Plugged and Abandoned
JD04 and 05	1999	Drilled
JD08	Incomplete	Approved under PEL 2 – Not Drilled
JS01, 03 and 04	2000	Drilled
JS02	2000	Plugged and Abandoned
KP01, 02 and 03	2002	Drilled
KP06	Incomplete	Approved – Not Drilled
KP05	2008	Drilled
LB01, 02, 03, 04 and 08	Incomplete	Approved – Not Drilled
LB05 and 07	2001	Drilled
LB06, 09 and 10	2001	Drilled
LB11	2007	Drilled
LP01	Incomplete	Not Completed
MH01	Incomplete	Not Completed
MP14, 15, 16 and 17	2003	Drilled
MP13	2003	Drilled
MP30	2008	Drilled
MT01 02, 03, 04, 06, 07, 08, 09 and 10	2004	Drilled
MT05	2004	Drilled
Ray Beddoe Treatment Plant	2001	Shut Down (as of 05 February 2007)
RB03, 04 and 05	Incomplete	Approved – Not Drilled
RB06, 07, 08, 09, 10, 11 and 12	2007	Drilled

Section 3 Operations During the Reporting Period

Well Name	Date Completed	Status June 2008
Rosalind Park Gas Plant	2005	Operating
RP01	Incomplete	Approved – Not Drilled
RP02, 07, 08, 10 and 12	2003	Drilled
RP03, 04, 05, 06, 09 and 11	2003	Drilled
SL01, SL04, SL05, SL06, SL07, SL08	Incomplete	Approved – Not Drilled
SL02 and SL03	2006	Drilled
SL09	Incomplete	Not Completed
WG02 and 03	2003	Drilled
WG01, 04 and 05	2003	Drilled
WG06	Incomplete	Not Completed

3.1.2 Exploration

Exploration activities undertaken during the reporting period included the drilling of exploration core holes as part of the planning for the future development of the Project. Core holes Cecil 1, Raby 1 and Denham Court 1 were drilled during the reporting period.

3.1.3 Production

Production information is provided to the DPI on a monthly basis in accordance with the project's production lease requirements. This information has not been reproduced here as it is commercially sensitive but can be provided to the DoP on a commercial in confidence basis upon request.

3.1.4 Land Preparation

Wells recently drilled on EMAI, Razorback, Menangle Park, Kay Park and Sugarloaf continue to be completed, fracture stimulated (as required) and brought on to production capability. For all other well sites, full rehabilitation of the construction works has occurred and each well site now constitutes a fenced footprint containing the well head, water separating equipment and ancillary equipment. The surrounding clearing, required for possible future well maintenance, has been rehabilitated and is under a long term monitoring program. Where possible, the land has been returned to landholder use.

All installed gas gathering infrastructure has been rehabilitated and is under a long term monitoring program.

3.1.5 Mining, Mineral Processing and Ore Product Stockpiles

The Camden Gas Project primarily extracts coal bed methane. Therefore no mining, mineral processing or ore stockpiling is undertaken.

3.1.6 Other Infrastructure Management

During the reporting period works were completed on the construction of the new internal access road to the RPGP. Details of the impacts of these works are discussed under each relevant section in Section 4 of this report.

There were no other significant infrastructure developments associated with the Camden Gas Project during the reporting period.

3.1.7 Production and Waste Summary

A summary of waste produced is included in Section 4.8.

Section 4 Environmental Management and Performance

This section of the AEPR outlines the environmental management and performance of the Camden Gas Project. The headings are provided in accordance with the DPI guideline for formatting AEMRs. Where environmental monitoring is required by the Conditions of Consent for the development (issued by the DoP), the monitoring requirement and results are discussed within the relevant section.

4.1 Introduction

This section documents the implementation and effectiveness of control strategies for environmental risks identified in the POP and previous AEPR, in the following order:

- Overview of Environmental Management
- Actions required from the previous AEPR review
- Air pollution
- Erosion and sediment control
- Surface water pollution
- Groundwater pollution
- Waste management
- Hazardous materials
- Contaminated land
- Threatened flora and fauna
- Noxious weeds
- Blasting
- Operational noise
- Construction noise
- Visual amenity
- Aboriginal heritage
- European heritage
- Spontaneous combustion
- Bushfire
- Mine subsidence
- Hydrocarbon contamination
- Methane drainage/ventilation
- Public safety
- Safety and risk management
- Environmental training

Environmental Management and Performance

Section 4

4.2 Overview of Environmental Management

During the reporting period AGL commenced the development of a Project Environmental Management System (EMS) to manage potential environmental aspects associated with Camden Gas Project activities. An overall Environmental Management Plan (EMP) is in the final stages of being prepared at the time of writing to replace the current Environment Health and Safety Management Plans and numerous stand alone environmental management plans required under specific approvals. The consolidated EMP and Sub Plans will facilitate uniform implementation of environmental management. Sub Plans are being developed for the following issues:

- Noise Management;
- Flora and Fauna Management;
- Soil and Water Management;
- Aboriginal Cultural Heritage Management;
- European Heritage Management;
- Landscape and Rehabilitation Management;
- Air Quality Management;
- Waste Management;
- Traffic Management;
- Dangerous Goods and Hazardous Materials Storage; and
- Environmental Emergency Response.

A Health Safety and Environment Action Plan was developed and implemented during the reporting period. The HSE Action plan focused on improvements to the following areas:

- Communications and work focus;
- Leadership commitment;
- Risk management; and
- Systems improvement.

4.3 Actions Required from Previous AEPR Review

This section provides an overview of actions required from the previous AEPR review. Further information is available in the referenced sections of this AEPR. Table 4-1 summarises the requirements that were identified in the previous AEPR and comments on the actions taken or planned.

Section 4 Environmental Management and Performance

Table 4-1 Actions Completed for Non-Compliances Identified Within 2006/07 AEPR

CoC No.	Requirement	Comment on Non-Compliance	Action Undertaken
DA 282 Schedule 3 Condition 11	The Applicant shall run verticality logs for new gas wells located within coal exploration titles	The verticality logs have reportedly been developed for all wells installed, however these were not observed during the site visit.	Due to wells being vertical, geophysical logs with callipers are run as a more suitable tool instead of verticality logs. Logs from each well are kept in hard copy format in the well files in the office.
A 282 Schedule 3 Condition 16 & 17 Schedule 2 DA-183-8-2004-i Condition 7 Schedule 2 DA 9-1-05 Condition 8	The Applicant shall provide Camden Council, Campbelltown City Council and Wollondilly Shire Council with the wellhead configurations of each gas well within two months of the gas well being completed or two months from the date of this consent, whichever is the later.	Confirmation has reportedly been received by AGL that this requirement has been previously fulfilled by Sydney Gas. However, evidence was not available at the time of the site visit.	Land and Approvals team have been instructed to ensure that all correspondence is fulfilled and documented for future wells with a similar requirement.
DA 282 Schedule 4 Condition 3	The Applicant shall implement reasonable measures to screen gas wells GL 4, GL 5 and GL 10 and the interconnecting gas gathering line from the Banksia Garden picnic area within the Mount Annan Botanic Garden. The Applicant shall undertake such measures to the satisfaction of the Director-General	During the audit it was observed that two of the three wells GL5 and GL10 were screened from the Botanic Garden by existing vegetation. Some vegetation was observed to screen GL4 although it may be visible from the Gardens. No requirement to provide additional screening to that naturally present has reportedly been requested by the Botanic Garden to date.	Action Required: AGL to confirm requirements with Botanic Gardens and obtain response in writing if no further screening around the three wells required.

CoC No.	Requirement	Comment on Non-Compliance	Action Undertaken
DA 282 Schedule 4 Condition 34 & 35 & 38	The Applicant shall prepare and implement a Construction and Well Maintenance Noise Management Protocol to be used for the duration of the project.	A Noise Management Plan for the Camden Gas Project Stage 2 (ERM, December 2004) was prepared. It is understood that the EPA have recently provided comments and the plan is being compiled by an acoustic consultant (Wilkinson Murray).	Sydney Gas Ltd developed a Noise Management Program supported by a Noise Management Plan devised by ERM (sep 2004). These documents and the EHSMPs addressed this issue.
DA 282 Schedule 4 Condition 42	Within six months of the date of this consent, the Applicant shall submit a detailed Noise Monitoring Program for the development to the Director-General for approval prior to commissioning.	A Noise Monitoring Program was submitted to the DEC and comments recently received. A meeting with the DEC is due in February 2007 to finalise the program.	A noise monitoring program for the RPGP is in place and continues to be implemented.
DA 282 Schedule 4 Condition 44	The Applicant shall obtain the prior approval of the Director-General for the redrilling and/or additional fracing of a gas well.	Re-fracing of one well has been undertaken. Well RP-11 was refraced in March 2006. Approval was obtained for this well dated 7 February 2006 from Glyn Macdonald, Senior Inspector of Coal Mines, Department of Primary Industries. It was not confirmed whether prior approval was also obtained from the DG of DoP.	To be actioned in the event that re-fracing or additional fracing of wells is required in the future.
DA 282 Schedule 4 Condition 59	For each monitoring/discharge point or utilisation area specified below (by point number), the Applicant must monitor (by sampling and obtaining results by analysis) each parameter specified in Column 1. The Applicant must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns	Correspondence was submitted to the DEC (EPA) on 19 August 2004, demonstrating the combustion performance of the horizontal flare. As the flare predominantly operates in a pilot mode, it is reported to be impractical and of limited value to sample the flare. Analysis of flare emissions are to be based on the above report and plant availability data. No further sampling has since been requested from the DEC.	This requirement has been deleted from the EPA Licence and AGL has commenced discussion with the DoP to have it removed from the DA Consent.

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CoC No.	Requirement	Comment on Non-Compliance	Action Undertaken
DA 282 Schedule 4 Condition 66 & 67	Except as may be expressly provided for by a licence under the Protection of the Environment Operations Act 1997 in relation to the development, the Applicant shall comply with section 120 of the Protection of the Environment Operations Act 1997 in carrying out the development.	All sites are reportedly constructed in accordance with the site specific, approved Soil and Water Management Plans (SWMPs). At the time of the site visit there were no wells approved during the audit period that were in the process of installation. Two wells were observed to have recently been installed (GL13 and GL15). These wells were approved since June 2006 and outside of the audit period. However, GL13 had a pit for collecting water in place. The pit liner was observed to contain a couple of small holes. Water was evident outside of the pit, however, it could not be determined whether this was from the well. A sample of the water was taken by AGL at the time of the audit. Water management at GL15 (also approved outside of the audit period) also appeared to require some improvement as collection ponds were observed to be full with evidence of some spillage outside of the lined pits with well development water.	The SWMP has been fully reviewed and updated and new measures are incorporated into site construction and design.
DA 282 Schedule 4 Condition 97	The Applicant shall ensure that the storage, handling, and transport of: Dangerous goods is done in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the Dangerous Goods Code; and Explosives are carried out in accordance with the requirements of DMR.	At the time of the site visit improvements to Dangerous Goods storage appeared to be required, in particular signage and segregation.	An internal Dangerous Goods audit was conducted by AGL on the 27 June 2008. Identified actions are being progressively implemented.

Environmental Management and Performance

CoC No.	Requirement	Comment on Non-Compliance	Action Undertaken
DA 282 Schedule 4 Condition 100	The quantity of hazardous and/or industrial and/or Group A waste stored at the premises must not exceed 9,000 L at any one time.	The EPA has been notified (5 July 2006) that the current generation and on-site storage volume is exceeding licence limits (of 500 T and hence the CoC limit of 9,000 L) due to changes in the oily waste water separation process.	A meeting was held between the EPA and DoP to discuss this issue. It was agreed that AGL will prepare the documentation to request to have this condition modified in both the EPL and DA Consent.
DA 282 Schedule 4 Condition 101	The quantity of hazardous and/or industrial and/or Group A waste generated and/or stored at the premises must not exceed 85,000L per year.	The EPA has been notified (5 July 2006) that the current generation and on-site storage volume is exceeding licence limits (of 500 T – and hence also the CoC limit of 85,000 L) due to changes in the oily waste water separation process.	A meeting was held between the EPA and DoP to discuss this issue. It was agreed that AGL will prepare the documentation to request to have this condition modified in both the EPL and DA Consent.
DA 282 Schedule 4 Condition 102	The quantity of non controlled aqueous liquid wastes generated at the premises must not exceed 3,000,000 L per year.	Non controlled aqueous liquid wastes generated comprise saline water produced from the drilling and fracing of wells. This water is re-used on site and any excess water is disposed off-site. The quantity of water required to be disposed can exceed 3,000,000 L per year if sufficient number of wells are drilled and fraced and there is no availability for reuse.	A meeting was held between the EPA and DoP to discuss this issue. It was agreed that AGL will prepare the documentation to request to have this condition modified in both the EPL and DA Consent.
DA 282 Schedule 4 Condition 115	The Applicant shall implement the following bushfire hazard measures at the site: (b) Provision of a 20 metre asset protection zone managed as an inner protection area, around the perimeter of the Gas Treatment Plant and gas well sites;	The requirements have been implemented except for (b). The RPGP site is adjacent to a riparian area with protection requirements and also contains extensive tree plantings, both of which are required by Condition 13.	Discussion ongoing with landowner in relation to buffer on southern side of the RPGP. Note tree planting within the plant is a requirement of the consent.

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CoC No.	Requirement	Comment on Non-Compliance	Action Undertaken
DA 282 Schedule 5 Condition 4	The Applicant shall review and update the OEMP annually, or as directed by the Director-General.	The OEMP (EHSMP) has not been updated when additional DAs have been issued.	AGL is developing a new EMP which will be updated as required.

4.4 Air Pollution

4.4.1 Air Pollution Management

Significant air emissions associated with the Project are oxides of nitrogen (NOx) and oxides of sulphur (SOx) associated with compression of the coal seam methane resource, and to a lesser extent vehicle emissions as well as potential dust emissions associated with construction activities and vehicle movements.

In regard to air quality, the management objectives are to:

- Adequately protect existing air quality; and
- Minimise the potential for emissions that may cause public concern.

Management strategies used to meet the objectives for air quality include:

Activity	Management Strategies	Responsibility
Planning	- The workforce induction program shall inform site personnel of the required procedures for the protection of air quality.	Environment & Safety Officer
Operations	- Plant and equipment shall be regularly maintained and serviced to limit the amount of vehicle pollution generated. - Greenhouse gas emissions associated with production shall be minimised by adopting strict operating procedures. - The volume of flared gas shall be minimised, measured and recorded. - Vehicles shall remain on designated roads and access tracks and shall adhere to vehicle speed limits. - Operational activities shall be monitored to identify excessive dust generation. Dust control measures such as the use of water carts shall be implemented to avoid dust generation.	All personnel

4.4.2 Air Quality Criteria and Monitoring Requirements

Ray Beddoe Treatment Plant – DA-15-1-2002i

Requirements to monitor air quality for the RBTP are specified in the Development Consent DA-15-1-2002i, Schedule 3 Clause 76, 79-83 and 88. As this plant was shut down in February 2007, no air monitoring was undertaken during the reporting period.

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

Development Consent DA-282-6-2003-i, Schedule 4 Clause 47, 48, 58 and 59 specifies requirements to monitor air quality for the production area and air emission criteria. These requirements are as per the Environment Protection Licence No. 12003 (with the exception of Clause 47 which is not an EPL requirement) and are reproduced in Table 4-2 below.

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Table 4-2 Air Quality Criteria and Monitoring Requirements – DA-282-6-2003-i

Schedule 4. Clause 47 The applicant shall ensure air pollutant emissions do not exceed the following criteria at any privately owned residence: Nitrogen Dioxide: 246 µg/m3 (1 hour average) and 62 µg/m3 (annual average) Sulphur Dioxide: 570 µg/m3 (1 hour average) and 60 µg/m3 (annual average) Sulphuric acid mist: 33 µg/m3 (3 minute average) Methyl mercapton: 0.84 µg/m3 (3 minute average)
Schedule 4. Clause 48 For each discharge point the applicant shall ensure the concentration of the pollutant discharged does not exceed the concentration limit specified for that pollutant in the table. POINTS 1,2,3: Oxides of Nitrogen (461 mg/m^3) Sulphur Dioxide (7 mg/m^3) Sulphuric acid mist and/or sulphur trioxide (3.1 mg/m^3) POINT 4: Oxides of Nitrogen (110 mg/m^3) Sulphur Dioxide (35 mg/m^3) Sulphuric acid mist and/or sulphur trioxide (1 mg/m^3) POINT 5: Oxides of Nitrogen (13 mg/m^3) Sulphur Dioxide (1042 mg/m^3) Sulphuric acid mist and/or sulphur trioxide (35 mg/m^3)
Schedule 4. Clause 58 For each monitoring/ discharge point or utilisation area specified in the tables below (by a point number), the Applicant must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The Applicant must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns. POINTS 1, 2, 3 - Oxides of Nitrogen, Temperature, Moisture, Volumetric flow rate, Oxygen (*continuous*). POINTS 1, 2, 3, 4, 5 – Velocity, Volumetric flow rate, Temperature, Moisture, Dry gas density, Molecular weight of stack gases, Oxygen, Carbon dioxide, Oxides of Nitrogen, Sulfuric Acid Mist/Sulfur Trioxide, Sulfur Dioxide, Selection of sampling positions (*quarterly*). POINT 6 – Velocity, Volumetric flow rate, Temperature, Moisture, Dry gas density, Molecular weight of stack gases, Oxygen, Carbon dioxide, Odour, Selection of sampling positions (*quarterly*).
Schedule 4. Clause 59 For each monitoring/discharge point or utilisation area specified below (by point number), the Applicant must monitor (by sampling and obtaining results by analysis) each parameter specified in Column 1. The Applicant must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns: POINT 7 – Temperature, Volume

DA 282-6-2003, Schedule 5, CoC 12 and EPL (L2) stipulate load limits for assessable pollutants which must not be exceeded during the reporting period from the RPGP. These are summarised in Table 4-3 below.

Table 4-3 Load Limits for Assessable Pollutants - RPGP

Assessable Pollutant	Load Limit (kg)
Benzene	47
Benzo(a) pyrene	0.27
Fine Particulates	460
Hydrogen Sulfide	1.6
Nitrogen Oxides	103,000
Nitrogen Oxides – summer	
Sulphur Oxides	3,000
Volatile Organic Compounds	33,000
Volatile Organic Compounds - summer	

Note DA 282-6-2003 includes the additional load limits relating to water emissions however these have since been removed from the EPL.

Construction and Field Operations - Dust

A number of development consents stipulate requirements relating to dust management. These are summarised in Table 4-4 below.

Table 4-4 Dust Minimisation Requirements

Condition	Requirement
EPL 12003, Operating Condition 6. DA 151-2002, CoC 58; DA 246-8-2002, CoC 25; DA 282-6-2003, CoC 51; DA 75-4-2005, CoC 23; DA 171-7-2005, CoC 9; DA 246-8-2002, CoC 26; DA 282-6-2003, CoC 52; DA 246-8-2002, CoC 27; and DA 282-6-2003 CoC 53. Petroleum Production Lease (PPL) No.2, Condition 7 and PPL No.1, Condition 7. Project Approval 06-137, CoC 7 and Project Approval 06-138, CoC 7.	AGL should ensure that activities are carried out in a manner that will minimise the emission of dust, including traffic generated dust.

4.4.3 Air Quality Monitoring Results

Rosalind Park Gas Plant - Quarterly Monitoring

Quarterly monitoring reports were prepared for the following dates by Stephenson Environmental Management Australia:

- Quarterly Stack Emission Survey, August 2007
- Quarterly Stack Emission Survey, December 2007
- Quarterly Stack Emission Survey, February 2008
- Quarterly Stack Emission Survey, April 2008

Monitoring results are provided in **Appendix A**.

The following exceedances of EPL concentration limits were recorded. These are discussed in more detail in Section 4.4.4:

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- December 2007, Engine No.2 (Point 2): sulphuric acid mist / sulphur trioxide;
- December 2007, Reboiler flue (Point 4): sulphuric acid mist / sulphur trioxide;
- February 2008, Engine No.3 (Point 3): sulphuric acid mist / sulphur trioxide;
- February 2008, Reboiler flue (Point 4): sulphuric acid mist / sulphur trioxide; and
- April 2008, Engine No.2 (Point 2): sulphuric acid mist / sulphur trioxide.

During the previous reporting period AGL were in consultation with the DECC to have monitoring requirements for Point 7 deleted from the licence as it was believed to be impractical and of limited value to sample the flare due to it operating predominantly in pilot mode.

The DECC removed the requirement to undertake emissions monitoring (temperature and residence time) at Point 7 from the Licence in September 2007.

AGL are currently in discussions with the DoP to have the corresponding consent condition (DA-282-6-2003-i schedule 4, Clause 59) removed from the consent.

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

Stephenson Environmental Management Australia undertook emission testing to determine whether the plant is complying with the air pollutant criteria stipulated in DA 282-6-2003-I, Schedule 4, Clause 47. Pollutant concentrations were measured at the emission points and compared to the input data used in the modelling for the air impact assessment. The findings of the report were that the emission rates complied with the EIS report and DA limit for all the specified pollutants.

Rosalind Park Gas Plant – Assessable pollutants

Under the EPL for the RPGP AGL is required to meet load limits for assessable pollutants and to calculate the annual pollutant loads and associated fees. This was conducted by Stephenson Environmental Management in December 2007 (report dated February 2008) and the results included in the 2006/2007 Annual Return.

During the 2006/2007 Annual Return period (22 December 2006 to 21 December 2007) the load limit for fine particles, benzene and hydrogen sulphide where exceeded. These exceedances were reported in the Annual Return and are discussed in more detail in Section 4.4.4.

Rosalind Park Gas Plant - Continuous Monitoring

The licence requirement (M2.1) and DA-282-6-2003-i Schedule 4 Consent Condition 58 to provide continuous monitoring of NOx, temperature, flow rate, moisture and oxygen at Point 1, 2, and 3 was successfully undertaken in 2007/2008.

Monitoring results showed continued compliance with NOx limits for Compressor 1, 2 and 3. Full results of the continuous emissions monitoring for the reporting period are kept on file at the RPGP.

National Pollutant Inventory Reporting

The National Pollutant Inventory (NPI) Report for the RPGP for the 2007/08 financial year is being prepared and will be submitted during September 2008.

Construction and Field Operations – Dust Monitoring

During construction and field operations, visual inspections of dust conditions are undertaken by site personnel to ensure no dust is generated.

4.4.4 Air Pollution Environmental Performance / Trends

Sulphur Dioxide, Sulphur Trioxide / Sulphuric Acid Mist Emissions

Sulphur trioxide / sulphuric acid mist emissions were below the licence limits for monitoring points 1 and 5 throughout the reporting period. Exceedances of the licence limits were recorded for Points 2, 3 and 4.

At Point 2 (engine no.2) sulphur trioxide / sulphuric acid mist levels of 4.13 mg/m^3 and 4.06 mg/m^3 were recorded in December 2007 and April 2008 respectively which is above the licence limit of 3 mg/m^3 limit.

At Point 3 (engine no.3) a sulphur trioxide / sulphuric acid mist level of 17.1 mg/m^3 was recorded in February 2008. This result was not consistent with monitoring undertaken in August 2007 which recorded a level below the limit of detection of 0.7 mg/m^3. Compressor engine no.3 was not operational during monitoring surveys undertaken in December 2007 and April 2008 therefore further monitoring will identify whether the exceedance was an anomaly.

At Point 4 (reboiler flue) sulphur trioxide / sulphuric acid mist levels of 1.24 mg/m^3 and 1.45 mg/m^3 were recorded in December 2007 and February 2008 respectively. These levels only marginally exceeded the 1.0 mg/m^3 limit.

During the reporting period AGL were in discussion with the EPA and DoP to review the licence limit for Sulphur trioxide / sulphuric acid mist emissions.

Sulphur dioxide levels were below the licence limits for monitoring points 1, 2, 3, 4 and 5 throughout the reporting period.

Hydrogen Sulphide

Hydrogen sulphide is measured annually in order to calculate the annual pollutant loads and associated fees under the EPL. For the 22 December 2006 to 21 December 2007 Annual Return reporting period, the calculated annual load for Hydrogen Sulphide was 25 kg/year, exceeding the 1.6 kg/year load limit.

All the samples analysed for Hydrogen Sulphide returned results below the detection limit. As a result, in accordance with DECC requirements, half values of each of the varied detection limits were used as a conservative figure to calculate the annual load. This resulted in the calculated value exceeding the load limit without any monitoring point recording a definite result to support this non compliance.

Benzene

Benzene is measured annually in order to calculate the annual pollutant loads and associated fees under the EPL. For the 22 December 2006 to 21 December 2007 Annual Return reporting period, the calculated annual load for Benzene was 80 kg/year, exceeding the 47 kg/year load limit.

Of the six samples analysed for Benzene, five returned results below the detection limit and only one (Monitoring Point 5) recorded a result of 15.2 mg/m^3. In accordance with DECC requirements, half values of each of the varied detection limits were used as a conservative figure to calculate the annual load resulting in an accumulated total which exceeded the annual load limit. It should be noted that only Monitoring Point 5 recorded

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a definite result and if this result was used in isolation to calculate the annual load compliance would have been achieved.

Fine Particulates

For the 22 December 2006 to 21 December 2007 Annual Return reporting period, the calculated annual total load for fine particulates was 1,782 kg/year, exceeding the 460 kg/year load limit. This load was calculated based on sampling undertaken during December 2007 and AGL believe these samples were not representative of conditions throughout the year. AGL committed to undertaking further monitoring of fine particulates in May 2008 and reporting the results to the DECC. This report was in the process of being finalised at the time of writing.

Odour

The odour emission concentrations emitted from the Carbon Scrubber Vent were considered to be low throughout the reporting period. No complaints relating to odour from the RPGP were received during the reporting period.

Nitrogen Oxides Generation of Gas Engines

Nitrogen oxide levels complied with the licence limits for all monitoring points throughout the reporting period.

Dust

No complaints relating to dust from construction activities or field operations were recorded during the reporting period.

4.5 Erosion and Sediment

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

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

Activities that necessitate the removal of vegetation and disturbance to the soil surface, have the potential to cause an increase in the effects of wind and water erosion.

Control of water erosion is a key environmental issue requiring careful consideration and management, so as to avoid the reduction of surface water quality through erosion processes and subsequent siltation.

In regard to erosion, the management objectives are to:

- Reduce the occurrence and extent of soil erosion; and
- Promote and maintain soil stability.

Management strategies employed to meet the objectives for erosion and sediment are outlined in Table 4-5 below.

Table 4-5 Management Strategies - Erosion

Activity	Management Strategies	Responsibility
Planning	• The workforce induction program shall inform site personnel of the required procedures for sediment and erosion control.	Environment & Safety Officer

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Activity	Management Strategies	Responsibility
Operations	• All operational activities shall be restricted to the well site area, gathering line route, site office, lay down yard, workshop, Gas plant and designated access routes. • Ground disturbance and vegetation clearing shall be minimised. • The time between clearing and rehabilitation shall be minimised. • Erosion and sediment control measures shall be implemented as per the Soil and Water Management Plan to prevent erosion and water contamination and shall be in place prior to the commencement of works. • Activities shall be monitored to identify excessive dust generation. • Dust control measures (such as the use of water carts) shall be implemented in the event of dust generation. • Erosion and sediment control structures shall be routinely inspected and maintained to ensure they remain effective (namely removal of silt build up, replacement of failed components such as straw bales, silt fencing, breached berms). • Where erosion does occur, the area shall be stabilised as soon as practicable.	Environment & Safety Officer All personnel

Construction works undertaken during the reporting period included:

- Construction of the new internal access road to the RPGP;
- Gas gathering line construction; and
- Construction of new well compounds.

To mitigate potential sediment and erosion impacts, the following controls were in place during each construction period:

- A Stormwater Management Plan was developed for the new access road which included sediment and erosion control measures during construction;
- AGL has developed a Soil and Water Management Plan which details sediment and erosion control measures for construction works including construction of new wells;
- Site specific Sediment and Erosion Control Plans were developed for new well sites;
- Regular inspections of sediment and erosion controls are undertaken during construction works to ensure the controls are effective; and
- Prompt rehabilitation of well sites, access tracks and gas gathering line to minimise soil exposure times.

All activities associated with erosion and sediment control were compliant for the period with no significant community complaints or reportable incidents were recorded.

4.6 Surface Water Pollution

4.6.1 Water Generation

The Camden Gas Project produces water from the following four sources:

- Produced water that is brackish. 6,102,500 L of produced water from wells was disposed to the Campbelltown City Council Sanitary Depot. Note this figure does not include water that is reused on site for new drilling programs. Volumes have significantly reduced on a per well basis due to recycling of drill and frac waters from previous drill campaigns to new well development, fracture stimulating or workover. The total volume of produced water has increased from last year primarily due to the increase in the number of wells which had drilling pits emptied and rehabilitated during this reporting period compared with the 2006/2007 reporting period.
- Gas gathering line water is condensed water from the methane gas as it depressurises and cools in the gathering line system. This water is condensed from the gas and is quite pure. It was estimated 25,000 L of water was taken from the gas gathering line water traps during the reporting period.
- Gas Plant water which is condensed water from the methane gas and contains traces of hydrocarbon. During the reporting period 873,000 L was taken off site by licensed contractors for recycling.
- Grey water and septic tank water from the RPGP – 542,200 L was disposed to the Sewerage Treatment Plant by contractors.

4.6.2 Surface Water Management

During the reporting period, activities included drilling additional wells and/ or construction of access roads and/ or installation of gas gathering lines on Kay Park, Glenlee, EMAI and Razorback, Rosalind Park, Menangle Park and Sugarloaf fields.

Experience in managing the movement of progressively increasing volumes of well water resulted in a reduced number of minor spills and leakages.

All data to date has indicated that recovered / produced waters from wells is:

- Of no local value as a potable water resource without expensive further treatment; and
- Marginally suitable for stock use.

Management options of this resource are currently the subject of ongoing consultation with the EPA.

4.6.3 Surface Water Monitoring Requirement

The monitoring requirements for surface water quality, required of DA-282-6-2003-i are outlined in below. It should be noted that these requirements have been removed from the EPL and that there are no limits specified for the following parameters.

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Table 4-6 Surface Water Monitoring Requirement

Schedule 4. Clause 69.
For each monitoring/discharge point or utilisation area specified (by point number) in the table below, the Applicant must monitor (by sampling and obtaining results by analysis) each parameter specified in Column 1. The Applicant must use the sampling method, units of measure and sample at the frequency specified in the respective columns. POINT 8 - Total suspended solids, Biochemical oxygen demand, Oil & Grease, Total polycyclic aromatic hydrocarbons, Phenols, Total organic carbon, Total petroleum hydrocarbons, Electrical conductivity, Water level in storage (*monthly*).

4.6.4 Surface Water Monitoring Results

Surface water monitoring was undertaken at former EPL Point 8 (evaporation pond) during the reporting period for the parameters listed in Table 4-6 above. The results of the monitoring are summarised below:

- The water level in the evaporation pond ranged from 2 to 2.2 metres.
- Electrical conductivity levels ranged from 352 to 12,400 uS/cm.
- Total suspended solids was generally in the range of 10 to 62 mg/L, however, a level of 268 mg/L was recorded in October 2007. This was believed to be influenced by recent rainfall at the time of sampling.
- Biochemical oxygen demand levels varied throughout the reporting period with results ranging from 5 to 137 mg/L.
- Oil and grease results ranged from 0 to 17 mg/L.
- Total polycyclic aromatic hydrocarbons results ranged from 0 to 1.7 ug/L.
- Total phenols ranged from 0.065 to 0.304 mg/L.
- Total organic carbon levels ranged from 24 to 150 mg/L.
- Total petroleum hydrocarbons ranged from 0 to 610 ug/L, however, a level of 21,880 ug/L was recorded in October 2007. This one-off high result is suspected to be possibly due to contamination of sampling equipment.

4.6.5 Surface Water – Environmental Performance Trends

No water was taken from or discharged from the evaporation pond during the reporting period.

4.7 Groundwater Pollution

Two casing strings are installed during the drilling of a well. The initial larger diameter casing string is called the surface casing. This API casing string is installed to typically 110 to 130 metres and the casing/open hole annulus is then pressure cemented in place. One of the primary functions of this casing string is to protect surface ground water. The well is then drilled to its total depth and a second smaller diameter casing string is installed. This casing string is referred to as the production casing and is also API certified steel casing. This casing/ open hole annulus is then pressure cemented in place from the wells total depth back to surface.

A previous technical assessment of the groundwater regime found that as the entire casing of each well is cemented from top to bottom, connection between the Illawarra coal measures and overlying aquifers is not possible. The potential for cross contamination between aquifers during the production life of a well is therefore extremely unlikely.

Given the limited volumes of groundwater generated during well construction and the nature of the containment within the coal measures as well as overlying formations, surface aquifer depletion is not considered to be significant issues.

4.8 Waste Management

The following wastes were generated and disposed during the reporting period:

- Disposal of sewage and grey water from the RPGP site facilities by a licensed contractor to a licensed disposal facility (542 kilolitres);
- Disposal of minor quantities of cutting sludge by a licensed contractor to a licensed disposal facility (161 tonnes);
- Disposal of construction and packaging waste (275 tonnes); and
- Disposal of general waste (59 tonnes).

The following waste streams were generated and recycled during the reporting period:

- Oily waste water from the RPGP (786 tonnes);
- Waste oil (7.3 tonnes);
- Steel (33 tonnes);
- Mobile phones (0.002 tonnes);
- Batteries (0.085 tonnes);
- Oil filters (0.2 tonnes);
- Plastic (0.56 tonnes);
- Timber / green waste (7.4 tonnes);
- Paper (14 tonnes);

- Printer cartridges (0.03 tonnes).

The RPGP site holds an Environment Protection Licence (12003) for the hazardous, industrial or Group A waste generation or storage (>100 -500 T). The requirement for quarterly waste reporting to the EPA has been removed from the Licence following changes in legislation.

It is a requirement of the Licence (12003: L5.4 and L5.5) as well as RPGP Consent conditions that the quantity of hazardous and/or industrial and/or Group A waste stored at the premises must not exceed 9,000 L at any one time, and the total annual generation volume must not exceed 85,000 L. The EPA was notified in the Annual Return for the period 22 December 2006 to 21 December 2007 that current on site storage and generation volume is exceeding licence limits due to the physical nature of the oily waste water generated on site.

AGL engaged a waste treatment company to install a small wastewater treatment and separation plant at the RPGP. This was commissioned in May 2008. The plant separates the oil from the water by injecting the wastewater with a clay polymer that binds to the hydrocarbons producing a solid effluent. The solid effluent is stored in a skip bin and taken off site by licensed contractors to a licensed landfill. The clean water is released into the evaporation pond on site. This system reduces the volume of oily waste stored on site however AGL are still in discussions with the EPA and DoP to amend the storage capacity limit in the EPL and DA consent.

The RBTP site holds an Environmental Protection Licence (11713) for the hazardous, industrial or Group A waste generation or storage (>10 -100 T). In February 2007, the RBTP was shut down and since this time no waste has been generated or stored on site.

4.9 Hazardous Materials

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

A Dangerous Goods Notification issued by WorkCover NSW is not required for the quantities of Dangerous Goods stored at the RPGP.

All activities associated with hazardous materials management were compliant for the period with no reportable incidents recorded or community complaints received.

4.10 Contaminated Land

There is no land identified as contaminated or polluted on any part of AGL operations.

A number of chemicals are required for the various phases of a project. These include:

- Tri-ethylene glycol and mercaptan for Gas Plant operations;
- Fuel and lube oils during all phases; and
- Drilling and fracing aids during well construction.

In regard to preventing contamination or pollution, the management objectives are to:

- Avoid contamination of land or water; and

- Minimise risks to health and safety.

Management strategies employed to meet the objectives for preventing contamination or pollution are outlined in Table 4-7 below.

Table 4-7 Management Strategies – Contaminated Polluted Land

Activity	Management Strategies	Responsibility
Planning	• A chemical manifest shall be prepared and detailed procedures for chemical storage and handling, waste management and spill response shall be in place. • The workforce induction program shall inform site personnel of the required chemical storage and handling procedures.	Environment & Safety Officer
Operations	• All chemicals stored on site shall be entered on the Chemical Manifest. • Due to its stenchant characteristics, Odorant is handled in accordance with the strictest of protocols. • The storage and handling of fuels and chemicals shall comply with legislation and Australian standards. • Hazardous materials shall be transported, stored and handled in accordance with the requirements of relevant legislation and industry standards. • Fuels, lubricants and chemicals shall be stored and, where practicable, handled within containment facilities (for example, bunded areas, leak proof trays) designed to prevent the release of spilt substances to the environment. • All storage and handling equipment (including transfer hoses) shall be kept in a well maintained condition. • All vehicles and equipment shall be adequately maintained so as to minimise drips/leaks of oil and fuel. • All spills of fuel, oil or chemicals shall be addressed.	Environment & Safety Officer All personnel

All activities associated with land contamination or pollution were compliant for the period with no reportable incidents or community complaints recorded.

4.11 Threatened Flora and Fauna

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

In general terms, due to AGL selection criteria, an assessment of the Project area indicates that past activities by others (agriculture in particular), has already significantly disturbed native vegetation within the area.

The disturbance created by the activities involved with the Project is mainly limited to construction activities including ground disturbance from vehicles and drilling related equipment, pipeline trenching activities and

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limited land clearing for well sites. No mature trees or other native vegetation have been removed during construction works during the period and disturbances due to operational activities are minimal.

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 managed or avoided during the Project to date.

The EMAI is an area where preservation of significant stands of Cumberland Plains Woodland provides a breeding area suitable for numerous raptor species. Through careful planning and adaptation of the well sites, AGL has been able to develop on the EMAI in a way that satisfies the threatened flora and fauna requirements.

During the reporting period a flora and fauna assessment was undertaken in Spring Farm and Menangle Park as part of the Environmental Assessment. In addition flora and fauna assessments were undertaken as part of the development application modification process for the construction of the gas gathering line through Kay Park and for the construction two additional wells (EM39 and GL17), and twinning of the gas gathering line in the EMAI field. The assessments identified potential impacts on raptors within the EMAI property and included requirements to restrict the drilling of wells outside the raptor breeding season.

In regard to native flora and fauna the environmental management objective is to minimise adverse impacts to flora, fauna and fauna habitats.

Management strategies employed to meet the objective for flora and fauna are outlined in Table 4-8 below.

Table 4-8 Management Strategies – Flora and Fauna

Activity	Management Strategies	Responsibility
Planning	• The workforce induction program shall inform site personnel of the required procedures for the protection of flora, fauna and fauna habitat areas. • No hollow-bearing trees shall be removed or damaged for the operation.	Environment & Safety Officer
Operation	• All operational activities shall be restricted to the well site area, gathering line route, site office, lay down yard, workshop, Gas plant and designated access routes. • Personnel shall adhere to Project vehicle speed limits and remain on designated roads and access tracks. • Measures to mitigate impacts to fauna associated with noise shall be implemented. • Vermin shall be discouraged by the implementation of sound waste management practices. • Pets shall be prohibited from all sites. • Firearms shall be prohibited from all sites. • Fauna shall not be harassed, hunted or eggs or nests destroyed. • Fauna shall not be fed and direct contact with fauna shall be avoided. • Waste management shall be implemented to avoid attracting vertebrate pests.	Environment & Safety Officer All personnel

All activities associated with threatened or native flora and fauna were compliant for the period with no incidents or community complaints.

4.12 Noxious Weeds

Noxious weeds may be introduced and/or dispersed via personnel vehicles, equipment and plant.

The environmental management objective in regard to weed control is to minimise the introduction, establishment and spread of weeds.

Management strategies employed to meet the objectives for weed control are outlined in Table 4-9 below.

Table 4-9 Management Strategies – Noxious Weeds

Activity	Management Strategies	Responsibility
Planning	• The induction program shall inform personnel of the required procedures for the control of weeds species.	Environment & Safety Officer
Operations	• On first (and subsequent) entry to the all vehicles, equipment and portable infrastructure shall be washed by air or water or demonstrated they are clean (namely, certificate/or other document to show they have been cleaned down), prior to coming to site. • Topsoil and vegetation material shall be respread in the immediate vicinity of the area of origin to limit the potential spread of weeds and pathogens. • The restored areas and access tracks shall be inspected following the completion of operations, for evidence of weeds and pest animals. • Active weed and pest control shall be required at sites identified as infested for at least one year after operations. Additional appropriate control measures shall be utilised after this time, on the basis of monitoring results. • Disturbed areas shall be progressively rehabilitated as soon as practicable.	Environment & Safety Officer All personnel

Details of weed spraying including dates, areas sprayed, chemicals used etc, are kept on file at the RPGP site. The following provides a summary of the weed spraying undertaken during the reporting period:

- March 2008 - RBTP inside plant and car park;
- January 2008 – wells EM 25, EM 23, Logan Brae Yard, RPGP car park and around offices;
- November 2007 - RPGP access road; and
- October 2007 – wells RP 4, MP 16, MP 15, MP 14, WG 3, RP 2, RP 6, GL 16, GL 5, GL 10/14/15, GL 2/12, GL 4, GL 11/13, GL 9, GL 8, GL 7, EM 28, EM 30, EM 33, EM 31/32, EM 23, EM 26.

The main herbicides used are Round Up, Kamba M (selective herbicide) and Wipeout 450 (glysophate). Approximately 7.4 L of herbicides were used during the reporting period.

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

4.13 Blasting

No blasting is undertaken as part of the project.

4.14 Operational Noise

4.14.1 Operational Noise Management

All project aspects are designed with the aim of ensuring the amenity of surrounding residents is safeguarded through the proper management of all 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.

All noise complaints are compiled and presented for discussion at the Community Consultation Committee meeting.

The environmental management objectives regarding noise are to:

- Limit noise impacts as experienced by landholder or adjacent residents to licence conditions; and
- Limit noise disturbance to wildlife and livestock.

Management strategies employed to meet the objectives for noise are outlined in Table 4-10 below.

Table 4-10 Operational Noise Management Strategies

Activity	Management Strategies	Responsibility
Planning	• The workforce induction program shall inform site personnel of the required procedures regarding protection of local amenity.	Environment & Safety Officer
Operations	• Under normal operating conditions, field operations shall be limited to the hours between 7:00am to 6:00pm, Monday to Friday; from 8:00am to 1:00pm Saturday and no work on Sundays or Public Holidays. • Except in an emergency, operations will not generate noise impacts. • Noise generated from the Gas plant shall comply with noise limits set out in the development consent condition 38.	Environment & Safety Officer All personnel

4.14.2 Operational Noise Limits and Monitoring Requirements

The noise limits and monitoring requirements detailed in the Development Applications approved for the project are summarised in Table 4-11 below.

Table 4-11 Operational Noise Monitoring Requirements

DA 15-1-2002 – i
Schedule 3. Clause 38 The Applicant shall comply with the following noise criteria ($L_{Aeq\ 15\ minute}$): RECEIVER A: 40 dBA (Day, Evening and Night) RECEIVER B, C and F: 37 dBA (Day, Evening and Night) RECEIVER D, E and G to M: 37 dBA (Day and Evening), 35 dBA (Night) Any other residential receiver: 35 dBA (Day, Evening and Night)
DA 282-6-2003-i
Schedule 4. Clause 29 The Applicant shall ensure that noise from the normal operation of the premises, excluding flaring events, must not exceed the noise limits ($L_{Aeq\ 15\ minute}$) in the table below: R1 Medhurst Rd, Gilead: 35dBA (Day, Evening and Night) R7 Mt Gilead, Gilead: 37dBA (Day), 36dBA (Evening and Night)
Schedule 4. Clause 40 The Applicant must submit a noise compliance report to the EPA and the Department within one month of commissioning of the Gas Treatment Plant and on an annual basis with the Annual Return required by the EPA's licence to assess the project's compliance with the noise limits in Conditions 29 and 31. The noise monitoring must be conducted in accordance with Condition 42
Schedule 4. Clause 41 Following the first 12 months of continuous noise monitoring, during the life of the Development or as otherwise agreed by the Director-General, the Applicant shall undertake quarterly attended monitoring at the Mt Gilead Homestead to the satisfaction of the Director-General, in accordance with the NSW Industrial Noise Policy and AS 1055: "Acoustics – Description and Measurement of Environmental Noise".
Schedule 4. Clause 42 Within six months of the date of this consent, the Applicant shall submit a detailed Noise Monitoring Program for the development to the Director-General for approval prior to commissioning. The Applicant must comply with the Noise Monitoring Program at all times during operation of the development. Refer to the DA for details of the required content of the Program.
DA 75-4-2005
Schedule 2. Clause 18. Noise from the operation of the development shall not exceed 35dBA ($L_{Aeq\ 15\ minute}$) at any residential or noise sensitive premises during the day, evening or night. The $L_{A1\ (1\ minute)}$ shall not exceed 45 dBA at any residential or noise sensitive premises during the night. Note this development refers to the drilling and operation of wells SL01-SL07 and associated gas gathering lines.
PA 06_0137
Schedule 3. Clause 4 The proponent shall ensure that the noise generated by the project does not exceed 39 dBA during the day and evening and 35 dBA at night at any residential receiver ($L_{Aeq\ 15\ minute}$). The $L_{A1(1\ minute)}$ shall not exceed 45 dBA at night at any residential receiver. Refer to DA for notes relating to this condition.
PA 06_0138
Schedule 3. Clause 4 The Proponent shall ensure that the noise generated by the project does not exceed 39 dBA during the day and evening and 35 dBA at night at any residential receiver ($L_{Aeq\ 15\ minute}$). The $L_{A1(1\ minute)}$ shall not exceed 45 dBA at night at any residential receiver. Refer to DA for notes relating to this condition.

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DA 171-7-2005
Schedule 3 Clause 3. Noise from the operation of the development shall not exceed 35dBA ($L_{Aeq\ 15\ minute}$) at any residential or noise sensitive premises during the day, evening or night. The $L_{A1\ (1\ minute)}$ shall not exceed 45 dBA at any residential or noise sensitive premises during the night. Refer to DA for notes relating to this condition.

4.14.3 Noise Monitoring Results

- Noise monitoring was not undertaken at the RBTP, in accordance with DA 15-1-2002 – I, as the plant ceased operation in February 2007.
- Noise monitoring was undertaken at sensitive receivers in the vicinity of wells EM30, EM32 and EM37 (in accordance with PA06_0138) to demonstrate compliance with noise limits.
- Noise monitoring was undertaken at sensitive receivers in the vicinity of well EM38 (in accordance with DA 282-6-2003) to demonstrate compliance with noise limits.
- Noise monitoring was undertaken at sensitive receivers in the vicinity of wells RB10, RB11, RB12 (in accordance with PA_0137) to demonstrate compliance with noise limits.
- Noise monitoring was undertaken at sensitive receivers in the vicinity of well KP05 (in accordance with DA 246-8-2002) to demonstrate compliance with noise limits (note DA 246-8-2002 references the noise limits specified in DA 15-1-2002).
- Noise monitoring was undertaken at sensitive receivers in the vicinity of well SL09 (in accordance with DA 75-4-2005) to demonstrate compliance with noise limits.
- Wells EB 01 to EB 10 are yet to be drilled and therefore noise monitoring in accordance with DA 171-7-2005 has not been undertaken.

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

In accordance with this requirement, noise compliance reports are submitted quarterly to the DECC. The DoP receive a summary of this information as part of this AEPR.

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 acoustic consultants and is summarised in Table 4-12 below.

Table 4-12 Summary of Quarterly Noise Monitoring

Noise Monitoring Undertaken	Summary of Results
Attended noise monitoring 11 July 2007 (report dated July 2007)	Measured noise levels complied with the EPL limits for the Mount Gilead sensitive receivers for day, evening and night time. Noise levels of 36 dB(A) were recorded at R7 and 31 dB(A) at R1.
Attended noise monitoring 5-6 October 2007 (report dated October 2007)	Measured noise levels complied with the EPL limits for the Mount Gilead sensitive receivers for day, evening and night time. Noise levels between 31-36 dB(A) were recorded at R7. At R1 noise from the RPGP was inaudible and the L_{Aeq} level could not be established due to masking Hume Highway traffic noise.
Attended noise monitoring 18 December 2007 (report dated January 2008)	Measured noise levels complied with the EPL limits for the Mount Gilead sensitive receivers for day, evening and night time. Noise levels between 28-36 dB(A) were recorded at R7. At R1 noise from the RPGP was inaudible and the L_{Aeq} level could not be established due to masking Hume Highway traffic noise.
Attended noise monitoring 19 March 2008 (report dated March 2008)	Measured noise levels complied with the EPL limits for the Mount Gilead sensitive receivers for day, evening and night time. Noise levels between 36-37 dB(A) were recorded at R7. At R1 noise from the RPGP was inaudible and the L_{Aeq} level could not be established due to masking Hume Highway traffic noise.

DA 282-6-2003-i Schedule 4 Clause 42 – Noise Monitoring Program

Following discussions with the DECC and the DoP it was agreed that AGL would undertake attended monitoring at the Mount Gilead homestead with all three compressors running simultaneously to demonstrate compliance with the noise limits under maximum plant operating conditions. Following acceptance of the report by the DECC and DoP, AGL intend to review the continued functioning of the continuous noise logger currently located at the Mount Gilead homestead. The Noise Monitoring Program would then be revised to reflect this in consultation with the DECC and DoP.

4.14.4 Noise – Environmental Performance / Trends

Noise Performance at the Rosalind Park Gas Plant

In an effort to maintain compliance with EPL noise limits at the RPGP site, changes were made to the plumbing of the TEG pump to reduce noise emissions. No exceedances were recorded and no complaints received relating to operational noise of the RPGP.

Noise Performance - operations

The Project continued to meet its noise requirements during the reporting period. No exceedances were recorded and no complaints received relating to noise from operational wells.

4.15 Construction Noise

4.15.1 Construction Noise Management

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

- Drilling of wells;

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- Installation of well heads and casing;
- Hydraulic fracturing of the coal seam (where required); and
- Earth moving activities associated with construction of infrastructures i.e drilling pads, gathering lines, access roads and rehabilitation.

The environmental management objectives regarding noise are to:

- Ensure that regulatory noise limits are not exceeded and hence that no noise pollution is experienced by landholder or adjacent residents; and
- Limit noise disturbance to wildlife and livestock.

Management strategies employed to meet the objectives for noise are outlined in Table 4-13 below.

Table 4-13 Construction Noise Management Strategies

Activity	Management Strategies	Responsibility
Planning	• The workforce induction program shall inform site personnel of the required procedures regarding protection of local amenity.	Environment & Safety Officer
Operations	• Under normal operating conditions, field operations shall be limited to the hours between 7:00am to 6:00pm, Monday to Friday; from 8:00am to 1:00pm Saturday and no work on Sundays or Public Holidays. Surface to Inseam wells are an exception to these hours, requiring 24 hour/ 7 day drilling. • Except in an emergency, operations will not generate noise impacts.	Environment & Safety Officer All personnel

4.15.2 Construction Noise Limits and Monitoring Requirements

The noise limits and monitoring requirements detailed in the Development Applications and Modifications approved for the project are summarised in Table 4-14 below.

Table 4-14 Construction Noise Monitoring Requirements

PA 06_0137
Schedule 3. Clause 2 – Construction noise Criteria The proponent shall use its best endeavours to undertake construction activities to comply with Day time noise goal of 54 dBA at any residential receiver. Note this development refers to the drilling of wells RB 03- RB 12
PA 06_0138
Schedule 3. Clause 2 – Construction Noise Criteria The Proponent shall use its best endeavours to undertake construction activities to comply with the construction Day, Evening and Night goals of 54 dBA, 39 dBA and 35 dBA respectively at any residential receiver. Note: This development refers to the drilling of wells EM23-36
DA 75-4-2005
Schedule 2, Clause 19 Best endeavours will be made to undertake construction activities so as to comply with a noise goal of $L_{A10\ (15\ minutes)}$ 54 dB(A) when assessed at sensitive locations including residences and schools (particularly to avoid noise impacts during exam or other sensitive times)

DA 75-4-2005 (Mod 4 July 2007)
Schedule 2, Clause 18A Noise from the drilling and construction of SL08 and SL09 shall not exceed the following noise limits at the nearest sensitive receiver: Weekday (7am to 6pm) and Sat (7am-1pm): 54 dB(A)L_{Aeq} Saturday (1pm to 6pm) and Sunday (7am to 6pm): 44 dB(A)L_{Aeq} Evening: 47 dB(A)L_{Aeq} Night: 41 dB(A)L_{Aeq}
DA 15-1-2002 (Mod 4 July 2007)
Schedule 3 Clause 47A Noise from the drilling and construction of AP02 and AP03 shall not exceed the following limits at receivers A1, A2, A3 and A4: Weekday (7am to 6pm) and Sat (7am-1pm): 45 dB(A)L_{Aeq} Saturday (1pm to 6pm) and Sunday (7am to 6pm): 40 dB(A)L_{Aeq} Evening: 40 dB(A)L_{Aeq} Night: 30 dB(A)L_{Aeq}
DA 246-8-2002-I (Mod 4 July 2007)
Schedule 3, Clause 19B Nosie from the drilling and construction of KP05 and KP06 shall not exceed the following noise limits at the nearest receiver: Weekday (7am to 6pm) and Sat (7am-1pm): 53 dB(A)L_{Aeq} Saturday (1pm to 6pm) and Sunday (7am to 6pm): 48 dB(A)L_{Aeq} Evening: 41 dB(A)L_{Aeq} Night: 35 dB(A)L_{Aeq}
DA 282-6-2003i (Mod 4 July 2007)
Schedule 4, Clause 34B Noise from the drilling and construction of EM38 shall not exceed the following noise limits at the nearest sensitive receiver: Weekday (7am to 6pm) and Sat (7am-1pm): 54 dB(A)L_{Aeq} Saturday (1pm to 6pm) and Sunday (7am to 6pm): 39 dB(A)L_{Aeq} Evening: 39 dB(A)L_{Aeq} Night: 35 dB(A)L_{Aeq}
DA 282-6-2003i (Mod 11 April 2008)
Schedule 4, Clause 34C Noise from the drilling and construction of EM39 and GL17 shall not exceed the following noise limits at receivers EM39-R3 and GL17 – R3: Weekday (7am to 6pm) and Sat (7am-1pm): 40 dB(A)L_{Aeq} Saturday (1pm to 6pm) and Sunday (7am to 6pm): 40 dB(A)L_{Aeq} Evening: 40 dB(A)L_{Aeq} Night: 38 dB(A)L_{Aeq}

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DA 183-8-2004 (Mod 4 July 2007)
Schedule 2, Clause 13B Noise from the drilling and construction of MP30 shall not exceed the following noise limits at the nearest sensitive receiver: Weekday (7am to 6pm) and Sat (7am-1pm): 57 dB(A)L_{Aeq} Saturday (1pm to 6pm) and Sunday (7am to 6pm): 42 dB(A)L_{Aeq} Evening: 42 dB(A)L_{Aeq} Night: 40 dB(A)L_{Aeq}

4.15.3 Noise Monitoring Results

Noise monitoring was undertaken at nearby receivers during the drilling of MP30 EM38 and SL09 wells to ensure noise emissions were compliant with consent conditions.

4.15.4 Noise – Environmental Performance / Trends

One community complaint was received relating to night time noise during the drilling of KP05. Noise monitoring was unable to be undertaken as the drilling of this well had been completed on the same day the complaint was raised however a review of noise monitoring completed the previous evening at a nearby resident recorded the noise from drilling to be minimal to inaudible. Further noise monitoring was planned for the drilling of future wells in this locality.

In an effort to maintain compliance with noise limits set within the development consents, the following mitigation measures were implemented as required during the drilling of selected surface to inseam wells:

- Frac tanks and shipping containers were strategically placed onsite, serving as a noise wall to minimise noise emitted from mud pumps;
- Existing Mud Pumps were replaced with quieter Mud Pumps;
- Noise walls were installed on the drilling rig to minimise noise emitted from the rig engine;
- Equipment was orientated to face away from nearby sensitive receivers; and
- Operations requiring the use higher noise generating equipment were timed to avoid quieter periods.

4.16 Visual Amenity

4.16.1 Visual Amenity Management

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

Flaring at the RPGP can have a significant impact in the event that it occurs at night. The overall approach by AGL has however, progressed to the point where operational flaring has completely minimised during the reporting period due to the connection of most well sites to the plant with telemetry control, and the plant's availability at a monthly average of 99.7% as a result of all three compressors now being available to operate.

There have been no Visual Amenity Assessments completed during the reporting period.

4.16.2 Visual Amenity Monitoring Requirement

The monitoring requirements for visual amenity, required of DA 282-6-2003-i are outlined in Table 4-15 below.

Table 4-15 Visual Amenity Monitoring Requirements

DA 282-6-2003-i
Schedule 4. Clause 10. The applicant shall report on the effectiveness of the lighting controls in the AEPR.
Schedule 4. Clause 11. The Applicant shall record the frequency of the operation of the flare and shall make this information available for inspection by the DG on request. The records shall include but not be limited to the following: (a) date and time of each flare event; (b) duration of each flare event; (c) whether the flare operated during daylight or night-time hours; (d) the cause for the operation of the flare; (e) the number of compressor engines that have been commissioned and operating during the period; and (f) 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 following report: URS (2003) "SGL Proposal Stage 2 Coal Seam Methane Project Visual Assessment of Lighting and Flare" prepared by URS for SGL dated 6 November 2003."

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Schedule 4. Clause 13.

The Applicant shall prepare and implement a Vegetation and Landscape Management Plan for the Gas Treatment Plant site and the gas well sites. The plan shall include, but not necessarily be limited to:

(a) reasonable measures to protect mature trees as part of the well drilling, gas gathering system and Treatment Plant Site construction activities;

(b) a landscape strategy detailing the design and proposed planting of trees and shrubs to be undertaken;

(c) ensuring that tree and shrub species used for landscaping of the site are indigenous to the locality;

(d) details of a program to ensure that all landscaped areas are maintained in a tidy, healthy state;

(e) measures intended to maximise the screening of infrastructure from views from the Mt Gilead property through planting and other measures;

(f) details of the visual appearance of all new buildings, structures and facilities (including paint colours and specifications). New buildings shall be constructed so as to present a neat and orderly appearance and to blend as far as practicable with the surrounding landscape;

(g) details of any necessary irrigation system to ensure that adequate supplies of water are made available to all landscaping on site, the trees between the site and Menangle Creek and the trees located on the southern boundary of the Gas Treatment Plant site;

(h) details of any necessary methods to be employed in the establishment of trees on cut batters in the event that the excavated surface is not conducive to the planting of vegetation of the type displayed in the Landscape Design;

(i) provision for assessing and regularly monitoring the health of the trees in the Menangle Creek riparian zone adjacent to the Gas Treatment Plant site. The objective of the monitoring is to determine the health of the trees and to recommend measures (if required) to improve the health of the trees;

(j) reasonable measures to ensure that mature trees within the riparian corridor along Menangle Creek are retained and protected;

(k) details of proposed screening works including supplementary planting along the border of the site with Menangle Creek;

(l) reasonable measures to minimise the impacts of the gas wells on the cultural heritage landscape of the EMAI;

(m) details of a monitoring program to assess the effectiveness of all visual impact mitigation measures, particularly the measures used to minimise the visual impacts on the Mount Gilead Homestead; and

(n) reporting the results of the visual impact monitoring in the Annual Environmental Performance Report. The monitoring results will specifically identify any remedial measures required.

The Vegetation and Landscape Management Plan must be submitted and approved by the Director-General prior to commencement of construction on the Gas Treatment Plant site.

Schedule 4. Clause 14.

As part of an independent audit required under condition 18, the Vegetation and Landscape Management Plan must make provision for ensuring that landscaping of the Gas Treatment Plant site and surrounds is maintained in an adequate condition by providing details of a monitoring program. Monitoring must be carried out pursuant to the monitoring program every 6 months for the first two years from the commencement of planting and thereafter every 2 years by an independent and suitably qualified and experienced arborist whose appointment has been approved for the purposes of this condition by the Director-General. The monitoring program must include the following features:

(a) identification of mature trees surrounding the site which afford screening of the Gas Treatment Plant from Mt Gilead Homestead;

(b) provision for assessing and regularly monitoring the health of landscaping on the site and the trees in the Menangle Creek riparian zone adjacent to the Gas Treatment Plant site. The objective of the monitoring is to determine the health of the trees and to recommend measures (if required) to improve the health of the trees;

(c) Description of the health of each tree identified under condition (a);

(d) Recommendation of reasonable measures to ensure that mature trees within the riparian corridor along Menangle Creek are retained and protected, including trees that lie within the transmission line easement to the East of the site;

(e) Recommendation of any watering or fertilising that needs to be implemented to maintain the landscaping and surrounding trees;

(f) Recommendation of how to manage the landscaping to promote the maximisation of growth to maturity.

The results and recommendations of the monitoring program must be submitted to the Director-General at the conclusion of each stage of monitoring.

Schedule 4, Clause 18 The Applicant shall commission and pay the full cost of an Independent Audit of the performance of the mitigation measures implemented to prevent and minimise visual impacts of the proposal including landscaping, preservation of existing trees, and night-lighting effects. The audit must be conducted within 6 months of the commissioning of the proposed development and every 2 years thereafter, unless the Director-General directs otherwise. This audit must: (a) Be conducted by an independent landscape expert who is suitably qualified and experienced and whose appointment has been approved by the Director-General; (b) Assess the performance of the visual mitigation measures with specific reference to the effectiveness of mitigation measures in screening the development and lighting from the development from the Mount Gilead Homestead; (c) Review the adequacy of the Vegetation and Landscape Management Plan; (d) Recommend actions or measures to improve the performance of the visual mitigation measures and the adequacy of the Vegetation and Landscape Management Plan (if required); and (e) Be submitted to the Director-General; and (f) Be implemented to the satisfaction of the Director-General.
Modification to DA 282-6-2003 I dated 2 May 2007 (access road construction)
Schedule 4, Clause 19A The Applicant shall prepare and implement a Landscape Planting Plan for the relocated access road to the satisfaction of the DG. This plan must be submitted to the DG for approval prior to commencement of construction, and include: (a) details of the landscaping measures along the road and visual bund; (b) measures to manage and maintain the landscaping; and (c) describe the construction rehabilitation measures.
Schedule 4, Clause 19B Within 6 months of completion of the landscaping and every two years thereafter, unless otherwise directed by the DG, the Applicant shall commission and pay the full cost of an independent audit of the performance of the mitigation measures. The audit shall: (a) be conducted by a suitably qualified, experienced and independent person(s) whose appointment has been approved by the DG; (b) assess the performance of the visual mitigation measures with specific reference to the effectiveness of mitigation measures in screening the road from the Mount Gilead homestead; (c) review the adequacy of the Landscape Planting Plan; (d) recommend actions of measures to improve performance of the visual mitigation measures and the adequacy of the Landscape Planting Plan (if required); and (e) be submitted and implemented to the satisfaction of the DG Note: the Applicant may include this audit in the Independent Audit required under Schedule 4 Clause 18 of DA 282-6-2003 i. The due date for a combined audit shall be the earlier of the due dates for the separate audits.

4.16.3 Effectiveness of Lighting Controls (Schedule 4 Clause 10)

There were no further lighting adjustments or lighting assessments during the reporting period.

One complaint was received in February 2008 relating to temporary lighting during night time drilling works at KP05. The complaint arose after temporary lighting had been adjusted to assist with visibility and re-positioning of the lights prior to night works was overlooked. After receiving the complaint the light was immediately adjusted to be redirected from the landowner.

4.16.4 Flare Events (Schedule 4 Clause 11)

In accordance with DA 282-6-2003-i Schedule 4 Clause 11, AGL record the frequency and operation of the flare. The Flare log is provided in Appendix B. It should be noted that there was no flaring in the period October 2007 to June 2008.

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4.16.5 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. The VLMP was submitted and approved by the DoP on 2 July 2004. This AEPR reports the results of the visual impact monitoring.

Monitoring of the implementation of the VLMP as required under Clause 14 was conducted every six months for the first two years by URS during the previous reporting periods with the final round conducted in February 2007. The next round of monitoring is required two years thereafter and as such no monitoring was undertaken during this reporting period.

4.16.6 Independent Audit of Vegetation and Landscape Management Plan (Schedule 4 Clause 18)

In accordance with DA 282-6-2003-i Schedule 4 Clause 18, Distinctive Landscape Planning were commissioned to undertake an independent audit in the form of a Visual Impact Assessment in August 2005. It is acknowledged that the next independent audit was due in August 2007 however the audit was delayed due to the construction of the new RPGP access road occurring during this time. AGL are in the process of commissioning this audit. There have been no changes in site activities during the reporting period other than the continued growth of the trees and the completion of outstanding audit action items. Table 4-16 below details those actions which had not been closed out in the previous AEPR and provides an update of the recommendation status.

Table 4-16 Visual Impact Assessment 2005 Recommendations Status

Land-scape Zone	Performance Targets	Assessment	Recommendation	Action Undertaken by AGL
K	South eastern corner of site, screening sediment pond and flare wall	Reparation works evident with protective barriers in place to prevent further goat damage	On going monitoring to assess selective removal of wire barriers as plant material matures.	Ongoing
T3	Mature Tree to South Eastern Boundary	Tree showing naturally occurring structural damage and evidence of decline. SULE rating (Safe Useful Life Expectancy) would indicate tree should be removed immediately	Tree removal to occur to prevent safety hazard to adjoining gas plant infrastructure. Consult council for tree removal order.	Approval to remove the tree was obtained from the DoP on the 3 June 2008. The tree was removed in July 2008 (outside this reporting period).
T4	Mature Tree to South Eastern Boundary	Tree showing naturally occurring structural damage and evidence of decline. SULE rating (Safe Useful Life Expectancy) would indicate tree should be removed immediately	Tree removal to occur to prevent safety hazard to adjoining gas plant infrastructure. Consult council for tree removal order.	Approval to remove the tree was obtained from the DoP on the 3 June 2008. The tree was removed in July 2008 (outside this reporting period).

4.16.7 Landscape Planting Plan (Schedule 4, Clause 19A & 19B)

A Landscape Planting Plan was prepared for the Rosalind Park access road and approved by the Director General on 21 May 2007.

Clause 19B requires that an independent audit is undertaken within 6 months of completion of the landscaping and every two years thereafter. Landscaping of the access road commenced in September 2007 and was completed in November 2007. The independent audit is yet to be undertaken. AGL intend to combine this audit with the independent audit of the VLMP required under Clause 18 and are in the process of commissioning this audit.

4.16.8 Visual Impact Amenity Performance / Trends

The following tree maintenance activities were undertaken during the reporting period for trees previously planted around the RPGP, as well as trees recently planted adjacent to the new Rosalind Park access road:

- Grass was slashed around trees on numerous occasions;
- Weeds were sprayed on numerous occasions;
- Mulch was placed around the office trees during April 2008;
- Continued monitoring of plant health and survival. In the interests of efficiency plants will only be replaced once a combined total of ten dead plants are identified in all landscaped areas;
- The keeping of a Maintenance Log Book; and
- Removal of approximately 18 trees from area C due to the construction of the new RPGP access road. These trees were replaced as part of the landscape plantings for the access road.

Approval was also received from the DoP to remove the two *Eucalyptus molucanna* trees on the southern RPGP boundary (discussed in 06/07 AEPR) due to the increasingly poor condition and structural weakness. AGL engaged a qualified contractor to remove these two trees (outside this reporting period).

During the next reporting period, AGL plans to undertake the following measures to ensure continued health of the tree plantings.

- Engage a qualified landscape contractor to carry out inspections twice a year (early Spring and early Autumn) for insect damage and treatment with insecticide as required;
- Continue active insect control including weed and grass control around trees and mulch where necessary to suppress grass growth;
- The removal of tree guards on well-established plantings defined as greater than 1.5 m tall and with a basal stem diameter of greater than 30 mm; and
- Continue use of the Maintenance Log Book.

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4.17 Aboriginal Heritage

Ongoing aboriginal archaeological assessment was conducted over each new drilling program as part of the Environmental Impact Assessment process.

The conclusion from these studies is that the Project area represents an area considered to be of low archaeological potential. Despite this, evidence of Aboriginal occupation of the area has been identified during surveys conducted for this Project.

In regard to cultural heritage, the management objective is to protect and preserve cultural heritage. Management strategies employed to meet the objectives for aboriginal heritage are outlined in Table 4-17 below.

Table 4-17 Management Strategies – Aboriginal Heritage

Activity	Management Strategies	Responsibility
Planning	• The workforce induction program shall inform site personnel of the required procedures for protection of cultural heritage. • Flagging and fencing shall be place around known sites in the vicinity of the proposed areas of disturbance prior to construction commencing.	Environment & Safety Officer
Operations	• All operational activities shall be restricted to the well site area, gathering line route, site office, lay down yard, workshop, Gas plant and designated access routes. • If in an area where monitoring is required and a previously unrecorded archaeological item is identified by the archaeologist, all ground disturbing activities shall cease and the Project Manager informed. The archaeologist will assess the item/s or site and provide a report to the Environment & Safety Officer with recommendations. This report will be submitted to National Parks and Wildlife Service for assessment. No work will commence without approval from NPWS and the Project Manager. • Should any Aboriginal sites or objects be unearthed during works, these activities should temporarily cease within the immediate vicinity of the find locality, be relocated to other areas of the site (allowing for a curtilage of at least 50m), and the *Department of Environment and Climate Change* should be contacted and permission sought for the *Tharawal Local Aboriginal Land Council* and the *Cubbitch Barta Native Title Claimants Aboriginal Corporation* to record/salvage these items.	Environment & Safety Officer All personnel

Aboriginal heritage activities conducted during the reporting period are summarised below.

EMAI

Works continued within the EMAI field in accordance with the previously approved Aboriginal Cultural Heritage Management Plan (ACHMP).

In addition an Aboriginal heritage assessment was undertaken by Biosis Research in consultation with the Tharawal Local Aboriginal Land Council (TLALC) and Cubbitch Barta Native Title Claimants Aboriginal Corporation (CBNTAC) for well site EM 39 (located at the existing EM 02 site) and the gas gathering line twinning site.

Artefacts identified during the earlier site assessment of the proposed EM 38 well site were relocated during the reporting period in accordance with the Section 90 permit issued under the National Parks and Wildlife Act 1974.

Spring Farm/ Menangle Park

AGL, Biosis Research and the TLALC and CBNTAC have continued working towards completion of the ACHMP for Spring Farm and Menangle Park.

Other Work

Aboriginal heritage assessments were undertaken by Biosis Research in consultation with the TLALC and CBNTAC for well site GL 17 and the route of the Kay Park gas gathering line twinning.

Field development and production works continued on the Razorback field in accordance with the previously approved ACHMP.

4.17.1 Aboriginal Heritage Management Performance/Trends

All activities associated with aboriginal heritage were compliant for the period with no reportable incidents or community complaints recorded.

4.18 European Heritage

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

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

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

Management strategies employed to meet the objectives for cultural heritage are outlined in Table 4-18 below.

Table 4-18 Management Strategies – European Heritage

Activity	Management Strategies	Responsibility
Planning	• The workforce induction program shall inform site personnel of the required procedures for protection of cultural heritage.	Environment & Safety Officer
Operations	• All operational activities shall be restricted to the well site area, site office, gathering line route, lay down yard, workshop, Gas plant and designated access routes.	Environment & Safety Officer All personnel

In performance terms:

- The continued development of areas on the EMAI met all Development Consent requirements for heritage protection.

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- A desktop review of previous non indigenous heritage studies was undertaken as part of the Spring Farm/ Menangle Park Environmental Assessment. The siting of the well surface locations and infrastructure will be designed in consideration of the identified heritage items to ensure the potential impacts on these items from the development is minimised.
- There were no other European heritage items and/or archaeological sites identified during other field surveys.

All activities associated with cultural heritage were compliant for the period with no reportable incidents or community complaints recorded.

4.19 Spontaneous Combustion

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

4.20 Bushfire

Operational activities have the potential to ignite bushfires through the operation of flammable fuel powered equipment, flares and / or vehicles. Flaring at the RPGP is strictly controlled so as to minimise any potential to start or spread a bushfire situation. This is achieved by positioning the flare in a non-hazardous location.

In regard to bushfire risk, the management objective is to reduce the threat of bushfires to personnel, third parties, property and the environment.

Management strategies employed to meet the objectives for bushfire control are outlined in Table 4-19.

Table 4-19 Management Strategies – Bushfire

Activity	Management Strategies	Responsibility
Planning	• The induction program shall inform personnel of the required bushfire management procedures. • AGL shall maintain regular liaison with local emergency services organisations. • Regular liaison with landholders shall be conducted regarding the nature and schedule of operational activities.	Environment & Safety Officer
Operations	• All operational activities shall be restricted to the well site area, gathering line route, site office, lay down yard, workshop, Gas plant and designated access routes. • All vehicles shall carry fire extinguishers. • All machinery shall be maintained and operated to comply with relevant fire safety standards. • Defective machinery shall be shut down until the defect is rectified and the machine made safe for operations. • The event of a fire shall be limited through the employment of fire prevention mechanisms.	Environment & Safety Officer All personnel

No bushfires affected the Project during the reporting period.

4.21 Mine Subsidence

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

4.22 Hydrocarbon Contamination

Spills of fuel, oil or chemicals may occur during operations. The environmental management objectives associated with spill response are to:

- Prevent spills from occurring;
- Protect the safety of the workforce and third parties; and
- Prevent or minimise contamination of soil and water.

Management strategies employed to meet the objectives for hydrocarbon contamination control are outlined in Table 4-20.

Table 4-20 Management Strategies – Hydrocarbon Contamination

Activity	Management Strategies	Responsibility
Planning	• During operations appropriate strategies and equipment shall be in place to deal with a spill of all types of fuel, oil or chemicals to be used on-site. • The workforce induction program shall inform site personnel of the required spill prevention and response procedures.	Environment & Safety Officer
Operations	• All fuel, oils and chemicals shall be stored and handled in accordance with Australian Standards. • Spills shall be stopped at source as soon as practicable. • Spilt material shall be contained to the smallest possible area. • Spilt material shall be recovered as soon as possible, using appropriate equipment. • Contaminated soil, or spill recovery materials (such as kitty litter and absorbent pads) shall be disposed of to appropriately licensed facilities. • Spill response equipment shall be maintained on-site and replaced as required. • Containment and recovery equipment shall include, but not be limited to absorbent materials (for example, pads and straw bales), shovels and sand bag sacks and protective clothing (for example, gloves, overalls, and boots).	Environment & Safety Officer All personnel

During the reporting period, there were a minor number of hazards reported relating to very minor hydrocarbon spills and leaks. All spills and leaks were of minor non reportable quantity and cleaned up immediately to prevent offsite impact.

All activities associated with hydrocarbon contamination control were compliant for the period with no reportable incidents or community complaints recorded.

4.23 Methane Drainage / Ventilation

Methane drainage is the process employed to recover Coal Seam Methane (CSM) for production. As such, it represents AGL's core business and is detailed under production.

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4.24 Public Safety

Public safety is assured through compliance with:

- Operational Protocols;
- Traffic Management Plans; and
- Site and Infrastructure Security.

All activities associated with public safety were compliant for the period with no reportable incidents or community complaints recorded.

4.25 Safety and Risk Management

4.25.1 Safety and Risk Management Monitoring Requirement

The monitoring requirements for incident reporting, required of the Development Application approval conditions, are outlined in Table 4-21**.**

Table 4-21 – Incident Reporting Monitoring Requirement

DA 15-1-2002-i
EPL Requirement The Licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident.
DA 282-6-2003-i
Schedule 4. Clause 94 The Applicant is required within 24 hours of any incident or potential incident with actual or potential significant off-site impacts on people or the biophysical environment, to supply a report to the Department outlining the basic facts. A further detailed report shall be prepared and submitted following investigations of the causes and identification of necessary additional preventive measures. That report must be submitted to the Director-General no later than 14 days after the incident or potential incident. The Applicant shall maintain a register of accidents, incidents and potential incidents. The register shall be made available for inspection at any time by the independent hazard auditor and the Director-General
DA 246-8-2002-i
Schedule 3. Clause 13 The Applicant shall notify the DECC, DPI and the Director-General of any incident with significant off-site impacts on people or the biosphere environment as soon as practicable after the occurrence of the incident. The Applicant shall provide written details of the incident to the Director-General, the DECC, DPI, and Wollondilly Council within seven days of the date on which the incident occurred. **Schedule 3. Clause 14** The Applicant shall meet the requirements of the Director-General to address the cause or impact of any incident, as it relates to this consent, reported in accordance with Condition 13 of this consent, within such period as the Director-General may agree.

PA 06_0137 & PA 06_0138
Schedule 4. Clause 2 Within 7 days of detecting an exceedance of the goals/limits/performance criteria in this approval or an incident causing (or threatening to cause) material harm to the environment; the Proponent shall report the exceedance/incident to the Department (and any relevant agency). The report shall: (a) describe the date, time, and nature of the exceedance/incident; (b) identify the cause (or likely cause) of the exceedance/incident; (c) describe what action has been taken to date; and (d) describe the proposed measures to address the exceedance/incident.

4.25.2 Incident Reporting

No reportable environmental incidents were recorded during the July 2007 to June 2008 reporting period.

4.26 Environmental Training

During the reporting period, staff were provided with a range of internal and external environmental training, addressing the following areas:

- Dangerous Goods handling;
- Supervisor training on AGL's Health Safety and Environment management system;
- Operator training on AGL's Health Safety and Environment management system;
- Operator focus group workshops with external facilitator;
- Environmental Footprint results; and
- On site environmental management course for Environmental Operator.

Section 5 Rehabilitation

5.1 Rehabilitation

All 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, all surface infrastructure will be removed prior to full site restoration being undertaken.

The management objectives for rehabilitation are to:

- Minimise potential for soil erosion and sedimentation;
- Minimise impact on existing drainage patterns;
- Minimise weed establishment;
- Restore fauna habitats;
- Minimise the visual impact of the well site; and
- Minimise adverse impacts of the well site on other existing land use.

Management strategies employed to meet the objectives for rehabilitation are outlined in Table 5-1.

Table 5-1–Management Strategies - Rehabilitation

Activity	Management Strategies	Responsibility
Planning	For each property a rehabilitation plan shall be developed to include requirements for reseeding and fertiliser in consultation with the landholder. The workforce induction program shall inform site personnel of the required clean up and rehabilitation procedures.	Environment & Safety Officer Land Access and Compliance Officer
General Clean-up	All waste materials and equipment shall be removed from the area once backfilling and tie-ins are completed. All flagging and bunting installed for environmental or safety reasons shall be removed. Small amounts of rocks and stones generated by the operations process shall be distributed evenly over the work area or removed to a location offsite in consultation with the landholder.	Environment & Safety Officer Construction Supervisor

Activity	Management Strategies	Responsibility
Soils and Terrain	Compacted areas shall be deep ripped or scarified for relief as required. Disturbed areas shall be graded to reinstate pre-existing surface contours and natural drainage patterns. Erosion and sediment control devices shall be installed. Topsoil shall not to be used for the installation of contour berms. Stockpiled topsoil and seed stock shall be respread across the work areas from which it was removed. Surface roughness shall be encouraged when respreading topsoil to assist water retention and seed trapping.	Environment & Safety Officer Construction Supervisor
Access	Private roads and tracks used during operations shall be returned to their pre-operational state, or to a condition agreed by the landholder.	Environment & Safety Officer Construction Supervisor
Property Infrastructure	Any infrastructure disturbed during operations shall be restored to the landholder's satisfaction. All fences which were cut and replaced by gates during operations shall be repaired to at least the equivalent pre-operational condition, unless permanent gates or other arrangements are agreed with the landholder.	Environment & Safety Officer Construction Supervisor

5.1.1 Rehabilitation of Disturbed Land

Specific rehabilitation activities associated with the Project during the reporting period may be subdivided into three main components:

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

Progressive rehabilitation is an ongoing management practice for all areas impacted by the Project.

Table 5-2 shows the total area of the Camden Gas Project, the area of disturbance and final rehabilitation.

Table 5-2 Summary of Recent and Proposed Rehabilitation

	Area Affected/Rehabilitated (hectares)		
	Cumulative to Date	Last Report	Next Report (Estimated)
DISTURBED AREAS			
Well site construction leases rehabilitated to final well production compound	75	68	8
Gathering System route rehabilitated following installation (based on a 3m wide area of disturbance)	31	26	3
Rosalind Park Gas Plant	3	2	0

Section 5 Rehabilitation

	Area Affected/Rehabilitated (hectares)		
	Cumulative to Date	Last Report	Next Report (Estimated)
Ray Beddoe Treatment Plant	2	2	3
Other Non Specific Areas (access roads)	4	4	
Johndilo Office, Workshop and Lay down Yard	2	2	
REHABILITATION PROGRESS			
Total Rehabilitated area (except for maintenance)	117	104	14
SURFACE OF REHABILITATED LAND			
Pasture and grasses	117	104	14
Native forest/ecosystems	1	7	2
Plantation and crops	Nil	Nil	Nil
Other (include non-vegetative outcomes)	0	0	0

2,195 native trees were planted during the reporting period parallel to the RPGP access road.

The 117 hectares (ha) of land which has been disturbed and subsequently rehabilitated represents an area of only 0.5% of the combined total area of the PPLs. (PPL 1 - 4,800 ha, PPL 2 - 94 ha, PPL 4 - 5,527 ha, PPL 5 – 10,240 ha and PPL 6 - 726 ha). Further, at the end of this reporting period, there is still currently no surface infrastructure or disturbed areas across PPL 5 and PPL 6.

Table 5-3 Summary of Maintenance Activities on Rehabilitated Land

Nature of Treatment	Area Treated (ha)		Comment/ control strategies/ treatment detail
	Report Period	Next Report (estimated)	
Additional erosion control works (drains, re-contouring, rock protection)	<1	<1	Contour drains installed on areas with gentle slopes.
Re-covering (detail – further topsoil, subsoil sealing etc)	0	0	N/A
Soil treatment (detail – fertiliser, lime, gypsum etc)	0	0	N/A
Treatment/ Management (detail – grazing, cropping, slashing etc)	117	14	Areas slashed or grazed to encourage improved growth and vegetation cover.
Reseeding/ Replanting (detail – species density, season etc)	<1	<1	Native trees replanted as a result of impacts from drought and native and feral animals.
Adversely affected by weeds (detail – type and treatment)	1	1	Weeds, predominantly thistle varieties are controlled by chipping and/ or herbicides.
Feral animal control (detail – additional fencing, trapping, baiting etc)	0	<1	Additional fencing may possibly be installed around tree planting areas to limit impact from feral animals.

5.1.2 Well Sites

All well sites are located in cleared farm land or in areas within cleared native vegetation with additional clearing being minimal or not required at all.

Long term operation of the wells requires the retention of a cleared area around each wellhead. The cleared area beyond this point required during drilling and construction has been rehabilitated in the following manner:

- Any remaining debris or equipment removed;
- All sumps utilised during drilling operations backfilled to natural surface with the retained subsoil;
- Any tracks or hardstand areas, or areas of compacted ground not required for ongoing use ripped. Fences have been retained at the landholder's discretion;
- Wherever recoverable, stockpiled topsoil has been respread across the surface; and
- Consultation is undertaken with the landholder to determine what seed is used for revegetation.

Upon depletion of the field, the wells will be plugged and abandoned in accordance with the requirements of the DPI and all surface structures removed.

All wellhead assembly and near surface casing to a depth of approximately 1 metre will be removed, backfilled and rehabilitated. The cleared area around each wellhead will be lightly ripped and be returned to the landholder for pastoral use or be revegetated with broadcast seed of compatible species to the surrounding dominant species.

Rehabilitation of the Camden Gas Project works has been progressed as each field develops. This process has been accelerated by the use of impervious plastic liners in all drill pits. The removal of waters is quicker and there is no need to wait for desiccation.

5.1.3 Gas Gathering System

Rehabilitation of the gas gathering system occurs at the time of construction. The rehabilitation of the area disturbed consisted of the following steps:

- Placement of retained subsoil into the trench;
- Spreading of retained topsoil across the disturbed working area;
- Where the surrounding land use was pasture, consultation with the landowner was undertaken to determine what, if any, cover crop would be required;
- Where the previous land use was an access track or fence line, revegetation was limited to areas beyond the track that were disturbed during the construction. Where the route crossed fences or roads / tracks, they were repaired and re-instated; and
- Where clearing of vegetation had occurred, felled material was redistributed over the rehabilitated area.

Section 5 Rehabilitation

Upon depletion of the field and the completion of the Project, the preferred method of rehabilitation for the gas gathering system would be to purge with air or water to remove remaining gas, seal and leave in position for future beneficial use and to prevent further disturbance. This method is subject to consultation with the landowner.

It is considered that removal of the buried component of the gas gathering system would be counterproductive and result in an unnecessary disruption to the environment and local community.

Should removal of the gas gathering system be required, the excavated trench would be backfilled and rehabilitated, including contouring and revegetating.

5.1.4 Buildings and Auxiliary Facilities

The provision of offices and auxiliary services for the Camden operations of AGL are located at the RPGP site. Decommissioning of the RBTP buildings and auxiliary facilities commenced during the reporting period. This included the removal of the butane tank and some of the portable office and amenity blocks. A Rehabilitation Management Plan has been developed for the RBTP site and has been approved by the DoP and DECC. Planning continues for the salvage and sale of all buildings and facilities, ripping of hardstand and compacted areas, re-profiling and filling of any voids, spreading of retained topsoil and revegetation with a species mix compatible with the former vegetation.

5.1.5 Other Infrastructure

Rehabilitation of other infrastructure is not required as part of the Camden Gas Project.

5.2 Rehabilitation Trials and Research

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

5.3 Further development of the Final Rehabilitation Plan

Though the current operations of AGL are not likely to cease for at least 20 years, 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.

Upon decommissioning of the gas field infrastructure and cessation of gas production, the current plan for a Plant site would be the salvage and sale of all equipment, buildings and facilities, ripping of hardstand and compacted areas, the re-profiling and filling of any voids, spreading of retained topsoil and revegetation with a species mix compatible with the former vegetation.

5.4 Activities Proposed in the Next AEMR Period

Further drilling will be targeted at locating adequate reserves in PPL 1, PPL 2, PPL 4, PPL 5, and PPL 6 to service an expansion of capacity of the RPGP. Operations are planned to develop well fields on the Sugarloaf Farm, Spring Farm, Menangle Park, Kay Park, Glenlee and EMAI properties.

5.5 Further Improvements

Over the forthcoming reporting period, AGL will continue to develop the Camden Gas Project to ensure that all areas of operations strive to advance and work in accordance with AGL's Life Guard system, a Health, Safety and Environment Management System based on ISO 14001: 2004.

In addition AGL are in the process of developing an Environmental Management System (EMS) to manage potential environmental aspects associated with Camden Gas Project activities. An overall Environmental Management Plan (EMP) is in the process of being prepared to replace the current Environment Health and Safety Management Plan and numerous stand alone environmental management plans required under specific approvals. The EMS comprises the consolidated EMP and its Sub Plans which will facilitate uniform implementation of environmental management.

5.6 Closure Plan

Though the current operations of AGL are not likely to cease for at least 20 years, AGL will continue planning work for site closure.

Section 6 Project Commitments Register

During the reporting period there has been a significant increase in the number of DA modifications. AGL are managing the requirements of the various requirements and Conditions of Consent through a Compliance Register.

This Compliance Register replaces the Project Commitments Register which was used during previous years. The Compliance Register is a live document that is used to monitor and track compliance with the Consent Conditions and other requirements. The register is currently being set up to include an automated trigger system to assist in ensuring conditions are complied with.

Stakeholder Engagement Section 7

This Section of the AEPR discusses community relation issues, including environmental complaints and actions from the Community Consultation Committee.

7.1 Environmental Complaints

7.1.1 Stakeholder Management

A complaint handling procedure has been set in place for the Camden Gas Project operations. AGL has a 24 hour contact telephone number which allows the community to raise any issues or concerns that relate to the operations of the Project.

The details of this are included on fliers that have been distributed to local households and businesses.

All complaints are entered into a complaints database whereupon AGL staff undertake an investigation. Relevant site personnel are also notified to resolve any issues and to make them promptly aware of the concern.

Resolution details are communicated directly to the complainant and are presented at the next Community Consultation Committee forum or other public opportunities.

7.1.2 Complaints Register Requirement

This section provides a summary of the environmental complaints received and management actions taken to address any issues. The requirement for a complaints register to be maintained and complaints actioned is outlined in the following Development Consents as well as the EPL for the Rosalind Park Gas Plant:

- 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 75-4-2004 Schedule 2, Clause 59.

The requirements detailed in the above Development Consents correlate 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 be 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.

Section 7 Stakeholder Engagement

The Complaints Register shall be made available for inspection by the DECC or the Director-General upon request. The Applicant shall also make summaries of the register, without details of the complainants, available for public inspection. A record of the complaint must be kept for at least 4 years after it was made.

7.1.3 Summary of Environmental Complaints

A summary of the environmental related complaints received for the Camden Gas Project between July 2007 and June 2008 is provided in Table 7-1. The actions taken to address issues to address these complaints are outlined in the table.

Table 7-1 Environmental Complaint Details from July 2007 to June 2008

Complaint	Complainant	Date	Action Taken
Landowner complained that temporary lights were not directed away from adjoining landowners and also about excessive night shift noise.	Available upon request	February 2008	An inspection was arranged of the night lighting. The lights had been adjusted earlier during the day to assist visibility over the mud tanks and had not been readjusted for the night shift. Upon receipt of the complaint the lights were adjusted to face away from the residence. The landowner was informed of the actions taken to address the complaint. In response to the complaint regarding excessive night time noise, drilling at this site was completed on the night of the complaint. And therefore noise monitoring was unable to be undertaken. A review of the previous nights noise monitoring was undertaken and recorded as minimal. Further monitoring planned during drilling of future wells in the same location.

7.1.4 Complaint Trend

The number of complaints received in 2007/08 has remained the same as the previous reporting period (one).

7.2 Community Consultative Committee (CCC)

7.2.1 Monitoring Requirement

The monitoring requirement for a community consultative committee 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 171-7-2005 Schedule 4, Clause 11;
- DA 75-4-2005: Schedule 2 Clause 61;
- PA 06_137: Schedule 4, Clause 8; and
- PA 06_138: Schedule 4, Clause 8.

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

In summary the Development Consents require that a Community Consultative Committee 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.

7.3 Community Liaison

AGL has pro-actively engaged the community, in order to keep residents informed of the Camden Gas Project, and ensure that community interests are 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:

- Consultation with affected landholders;
- Hosting community members and local businesses and numerous site tours;
- Providing site tours for the University of New South Wales petroleum engineering students; and
- Distributing community consultation material to the local council offices.

A great deal of consultation has taken place in person directly with each landowner. This has ensured that their interests can be quickly understood and specifically addressed.

The Community Consultation Committee (CCC) was formed in early 2003, as a forum to oversee the environmental performance of the Camden Gas Project. During the November 2007 meeting it was discussed and agreed to change the frequency of the meetings from quarterly to every four months following consultation with the Department of Planning by the Chair.

The committee consists of:

- Chairperson;
- Camden Council;

Section 7 Stakeholder Engagement

- Campbelltown City Council;
- Wollondilly Shire Council;
- Four Community Members;
- Two Local Environment Members; and
- Two AGL Members.

AGL plans to continue to pro-actively engage the community for the duration of the Project. There have been no environmental based actions arising from the community consultative meetings held. All actions have been advisory or administrative actions.

7.3.1 Community Consultation

Community Consultative Committee (CCC)

Community Consultation Committee (CCC) meetings were undertaken on the following dates:

- No.17 - 2 August 2007
- No.18 - 22 November 2007
- No.19 - 27 March 2008

Other Consultation

The following consultation processes have also been undertaken for the Camden Gas Project:

- Aboriginal consultation processes have been undertaken for planning of works at EMAI, Kay Park, Glenlee, Spring Farm and Menangle Park;
- Landowner advices to affected properties on a regular basis; and
- Operational issues requiring letter drops including drilling and fracing of EMAI, Razorback, Kay Park, Sugarloaf and Menangle Park wells.

7.4 Audits and Visits

Site visits undertaken by regulatory authorities during the reporting period are provided in Table 7-2.

Table 7-2 Site Visits by Regulators During 2007 - 2008

Camden Gas Project	Regulator / Shire etc	Issues or Concerns
01 November 2007	DECC	Site visit to EM38 to undertake noise assessment during drilling.
06 May 2008	DPI - Minerals	Site visit to Sugarloaf field to familiarise with Camden Project including drilling and gas gathering line installation operations.
27 June 2008	DECC & DoP	Site visit to RPGP to discuss noise monitoring, wastewater, air emissions and tree planting.

Stakeholder Engagement Section 7

In August 2007 AGL commissioned Environ environmental consultants to undertake an audit of AGL's Environment Health and Safety Management System "Lifeguard". A summary of the recommendations made in the audit relating to the environment and an update of the actions undertaken is presented in Table 7-3 below.

Table 7-3 Lifeguard Audit Recommendations and Actions Undertaken

Audit Recommendations	Action Undertaken
Hold weekly meetings for operator level personnel to communicate HSE items.	Toolbox Meetings are held each Monday for both Production and Field Development Teams to communicate HSE items and weekly scheduled work tasks.
Implement a tracking and monitoring system for objectives and targets	A HSE Action Plan was used for the reporting period to track and monitor key HSE objectives and targets.
Document a Management of Change procedure and make available to all staff. Develop and implement a formalised HSE risk assessment procedure for purchasing a new piece of equipment.	Management of Change Procedure and Purchasing Procedures (including consideration of HSE risks) have now been introduced.
Prepare an action plan to review possible actions to ensure the licence limits are not exceeded.	AGL is in discussions with the DECC and Department of Planning to review current licence limits to prevent future exceedances.
Maintain a document register so that operators can identify which is the most up to date document in use and old documents can be taken out of operation.	A Document Control System has now been introduced for key HSE documents
Issue daily inspection checklists to contractors and ensure they are signed off by an AGL supervisor.	Contractors use their own company inspection checklists.
Develop a procurement procedure, containing HSE considerations.	A Purchasing Procedure has been introduced and allows for HSE considerations and risk assessment.
Confirm that adequate training has been conducted in the use of the emergency response equipment.	Staff have been trained in Confined Space Entry, including correct use of Fire Extinguishers. Additional Fire Extinguisher training is scheduled for late 2008.
Verify that there is a System to maintain the MSDS as up to date.	An annual review of all MSDS folders is now part of the Compliance Register to ensure a systematic approach.
Consider formalising the review of the emissions and possible reductions	AGL is in discussions with the DECC and Department of Planning.
Review waste management and record according to standard.	A Waste Management Plan is being finalised for the Camden Gas project, consistent with the site Environment Protection Licence and Life Guard Standard.
Build energy and water conservation into design and modifications procedures.	Acknowledged for future application.
Undertake a risk assessment for the new oil store.	Internal audit undertaken during the reporting period.
Audit construction companies against EHSMP. Develop an audit schedule with feedback aiming to help smaller contractors make improvements.	A restructure has taken place, whereby AGL now uses the services of one civil construction company. A review of the company's HSE documentation was undertaken during the reporting period.
Develop an audit schedule (if not available) to enable a systematic approach to all areas of the business.	All areas of the business had scheduled audits completed by Team Leaders during the reporting period as part of the 2007/08 HSE Action Plan.

Section 8 Summary of Environmental Non-compliance Issues and Actions

8.1 Identification of Environmental Non-compliance Issues

It is a requirement to include in the AEPR a review of the requirements of the Environmental Standards (listed in Section 2.1 of this AEMR). AGL reviews the requirements of Environmental Standards through the following process:

- Review during Annual Return process for NSW EPA; and
- Independent Audit by URS every two years.

8.1.1 Annual Return

Non-conformances with the site's Environment Protection Licence are reported in the Annual Return to the EPA (last Annual Return for period December 2006 to December 2007). Where non-conformances were reported these are discussed under the relevant sections of this AEPR.

8.1.2 Non-Compliances Identified During Independent Audit

An Independent Audit was undertaken by URS outside of the reporting period (August 2008). The audit report will be forwarded to the DoP following its completion under separate cover. Non conformances identified during the previous independent audit that have not been closed out are listed in Table 8-1 along with planned actions to address these non-compliances.

Summary of Environmental Non-compliance Issues and Actions

Section 8

Table 8-1 Non-Compliances Identified with Environmental Standards

CoC No.	Non Compliant / Indeterminate	Summary of CoC Requirement	Comment on Non-Compliance	Recommended Action	Action Undertaken
DA 282 Schedule 4 Condition 3 Schedule 2 DA-183-8-2004-i Condition 8 Schedule 2 DA 9-1-05 Condition 9	Indeterminate	The Applicant shall implement reasonable measures to screen gas wells GL 4, GL 5 and GL 10 and the interconnecting gas gathering line from the Banksia Garden picnic area within the Mount Annan Botanic Garden. The Applicant shall undertake such measures to the satisfaction of the Director-General	During the audit it was observed that two of the three wells GL5 and GL10 were screened from the Botanic Garden by existing vegetation. Some vegetation was observed to screen GL4 although it may be visible from the Gardens. No requirement to provide additional screening to that naturally present has reportedly been requested by the Botanic Garden to date.	It is recommended that the Botanic Gardens are contacted to ask whether the existing vegetation is a sufficient screen or whether additional screening is required to meet the requirements of this CoC. If no additional screening is required by the Botanic Gardens it is recommended that this is recorded and filed by AGL, or any actions requested implemented.	AGL to confirm requirements with Botanic Gardens and obtain response in writing if no further screening around the three wells required.

Section 8 Summary of Environmental Non-compliance Issues and Actions

CoC No.	Non Compliant / Indeterminate	Summary of CoC Requirement	Comment on Non-Compliance	Recommended Action	Action Undertaken
DA 282 Schedule 4 Condition 59	Non-compliant.	For each monitoring/discharge point or utilisation area specified below (by point number), the Applicant must monitor (by sampling and obtaining results by analysis) each parameter specified in Column 1. The Applicant must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns	Correspondence was submitted to the DEC (EPA) on 19 August 2004, demonstrating the combustion performance of the horizontal flare. As the flare predominantly operates in a pilot mode, it is reported to be impractical and of limited value to sample the flare. Analysis of flare emissions are to be based on the above report and plant availability data. No further sampling has since been requested from the DEC.	It is recommended that AGL request an EPL variation if DEC are satisfied that the monitoring of the flare is not practical.	This requirement has been deleted from the EPA Licence and AGL has commenced discussion with the DoP to have it removed from the DA Consent.
DA 282 Schedule 4 Condition 100	Non-compliant	The quantity of hazardous and/or industrial and/or Group A waste stored at the premises must not exceed 9,000 L at any one time.	The EPA has been notified (5 July 2006) that the current generation and on-site storage volume is exceeding licence limits (of 500 T and hence the CoC limit of 9,000 L) due to changes in the oily waste water separation process.	AGL to continue liaisons with EPA and DOP and request an Environment Protection Licence variation if levels are to remain above licence limits.	A meeting was held between the EPA and DoP to discuss this issue. It was agreed that AGL will prepare the documentation to request to have this condition modified in both the EPL and DA Consent.

Summary of Environmental Non-compliance Issues and Actions

Section 8

CoC No.	Non Compliant / Indeterminate	Summary of CoC Requirement	Comment on Non-Compliance	Recommended Action	Action Undertaken
DA 282 Schedule 4 Condition 101	Non-compliant	The quantity of hazardous and/or industrial and/or Group A waste generated and/or stored at the premises must not exceed 85,000L per year.	The EPA has been notified (5 July 2006) that the current generation and on-site storage volume is exceeding licence limits (of 500 T – and hence also the CoC limit of 85,000 L) due to changes in the oily waste water separation process.	AGL to continue liaisons with EPA and DOP and request an Environment Protection Licence variation if levels are to remain above licence limits.	A meeting was held between the EPA and DoP to discuss this issue. It was agreed that AGL will prepare the documentation to request to have this condition modified in both the EPL and DA Consent.
DA 282 Schedule 4 Condition 102	Non-compliant	The quantity of non controlled aqueous liquid wastes generated at the premises must not exceed 3,000,000 L per year.	Non controlled aqueous liquid wastes generated comprise saline water produced from the drilling and fracing of wells. This water is re-used on site and any excess water is disposed off-site. The quantity of water required to be disposed can exceed 3,000,000 L per year if sufficient number of wells are drilled and fraced and there is no availability for reuse.	Continue liaisons with DoP and EPA and consider requesting an Environment Protection Licence variation if levels are to remain above licence limits.	A meeting was held between the EPA and DoP to discuss this issue. It was agreed that AGL will prepare the documentation to request to have this condition modified in both the EPL and DA Consent.

Section 8 Summary of Environmental Non-compliance Issues and Actions

CoC No.	Non Compliant / Indeterminate	Summary of CoC Requirement	Comment on Non-Compliance	Recommended Action	Action Undertaken
DA 282 Schedule 4 Condition 115	Indeterminate	The Applicant shall implement the following bushfire hazard measures at the site: (b) Provision of a 20 metre asset protection zone managed as an inner protection area, around the perimeter of the Gas Treatment Plant and gas well sites;	The requirements have been implemented except for (b). The RPGP site is adjacent to a riparian area with protection requirements and also contains extensive tree plantings, both of which are required by Condition 13.	Confirm with NSW Rural Fire Service that in the absence of the 20 m asset protection zone alternative bushfire hazard measures in place are sufficient to meet their requirements.	Discussion ongoing with landowner in relation to buffer on southern side of the RPGP. Note tree planting within the plant is a requirement of the consent.
DA 282 Schedule 5 Condition 4	Non-compliant	The Applicant shall review and update the OEMP annually, or as directed by the Director-General.	The OEMP (EHSMP) has not been updated when additional DAs have been issued.	Develop a schedule to ensure that the Operational EHSMP is updated annually.	AGL is developing a new EMP which will be updated as required.

Appendix A Air Quality Monitoring Results

Air Monitoring Results – Rosalind Park Gas Plant

EPA Monitoring Point 1							
Pollutant	**Unit**	**No. of Samples Required**	**No. of Samples Collected**	**Lowest Sample**	**Mean of Samples**	**Highest Sample**	**Licence Limit**
Temperature	Degrees Celcius	4	3	334	350.7	363	N/A
Nitrogen Oxides	Mg/m^3	4	3	188	206.7	241	461
Sulphur Dioxide	Mg/m^3	4	3	<3	<3	<3	7
Oxygen (O2)	%	4	3	12.1	12.8	13.4	N/A
Volumetric Flowrate	M^3/s	4	3	3.02	3.2	3.54	N/A
Molecular Weight of Stack Gases	g/g-mole	4	3	29.2	29.5	29.96	N/A
Sulfuric Acid and sulphur trioxide	Mg/m^3	4	3	<1.74	2.2	<2.82	3.1
Dry gas density	Kg/m^3	4	3	1.3	1.3	1.32	N/A
Velocity	m/s	4	3	25.7	27.0	28.9	N/A
Moisture	%	4	3	4.1	5.3	7.5	N/A
Carbon Dioxide	%	4	3	4.3	5.0	6.2	N/A

Note: Compressor engine No.1 was not operating during the August 07 survey

Appendix A Air Quality Monitoring Results

EPA Monitoring Point 2							
Pollutant	**Unit**	**No. of Samples Required**	**No. of Samples Collected**	**Lowest Sample**	**Mean of Samples**	**Highest Sample**	**Licence Limit**
Temperature	Degrees Celcius	4	3	418	435.0	468	N/A
Nitrogen Oxides	Mg/m^3	4	3	23	51.7	90	461
Sulphur Dioxide	Mg/m^3	4	3	<3	<3	<3	7
Oxygen (O2)	%	4	3	0.8	1.7	3.5	N/A
Volumetric Flowrate	M^3/s	4	3	0.98	1.3	1.6	N/A
Molecular Weight of Stack Gases	g/g-mole	4	3	29.7	29.8	29.8	N/A
Sulfuric Acid and sulphur trioxide	Mg/m^3	4	3	<0.9	3.0	4.13	3.1
Dry gas density	Kg/m^3	4	3	1.3	1.3	1.3	N/A
Velocity	m/s	4	3	16.8	21.5	27.3	N/A
Moisture	%	4	3	11.5	13.0	14.2	N/A
Carbon Dioxide	%	4	3	10	10.8	11.4	N/A

Note: Compressor engine No.2 was not operating during the February 2008 survey

Appendix A Air Quality Monitoring Results

EPA Monitoring Point 3							
Pollutant	**Unit**	**No. of Samples Required**	**No. of Samples Collected**	**Lowest Sample**	**Mean of Samples**	**Highest Sample**	**Licence Limit**
Temperature	Degrees Celcius	4	2	384	442.5	501	N/A
Nitrogen Oxides	Mg/m^3	4	2	68	81.0	94	461
Sulphur Dioxide	Mg/m^3	4	2	<3	3.0	3	7
Oxygen (O2)	%	4	2	0.8	1.0	1.2	N/A
Volumetric Flowrate	M^3/s	4	2	1.1	1.1	1.15	N/A
Molecular Weight of Stack Gases	g/g-mole	4	2	29.8	30.1	30.3	N/A
Sulfuric Acid and sulphur trioxide	Mg/m^3	4	2	<0.7	8.9	17.12	3.1
Dry gas density	Kg/m^3	4	2	1.3	1.3	1.35	N/A
Velocity	m/s	4	2	18.3	19.6	20.8	N/A
Moisture	%	4	2	13.1	13.5	13.9	N/A
Carbon Dioxide	%	4	2	11.2	11.7	12.1	N/A

Note: Compressor engine No.3 not was operating during the December 2007 and April 2008 surveys.

Appendix A Air Quality Monitoring Results

EPA Monitoring Point 4							
Pollutant	**Unit**	**No. of Samples Required**	**No. of Samples Collected**	**Lowest Sample**	**Mean of Samples**	**Highest Sample**	**Licence Limit**
Temperature	Degrees Celcius	4	4	238	270.0	315	N/A
Nitrogen Oxides	Mg/m^3	4	4	92	96.5	102	110
Sulphur Dioxide	Mg/m^3	4	4	<3	2.0	2	35
Oxygen (O2)	%	4	4	11.9	13.2	15.2	N/A
Volumetric Flowrate	M^3/s	4	4	0.07	0.1	0.1	N/A
Molecular Weight of Stack Gases	g/g-mole	4	4	29.2	29.3	29.5	N/A
Sulfuric Acid and sulphur trioxide	Mg/m^3	4	4	<0.68	1.1	1.45	1
Dry gas density	Kg/m^3	4	4	1.3	1.3	1.32	N/A
Velocity	m/s	4	4	2.5	3.4	4	N/A
Moisture	%	4	4	1.4	8.1	17.2	N/A
Carbon Dioxide	%	4	4	3.3	4.8	6.4	N/A

Appendix A Air Quality Monitoring Results

EPA Monitoring Point 5							
Pollutant	**Unit**	**No. of Samples Required**	**No. of Samples Collected**	**Lowest Sample**	**Mean of Samples**	**Highest Sample**	**Licence Limit**
Temperature	Degrees Celcius	4	4	81	90.3	100	N/A
Nitrogen Oxides	Mg/m^3	4	4	<2	<2	<2	13
Sulphur Dioxide	Mg/m^3	4	4	<3	2.7	2	1042
Oxygen (O2)	%	4	4	4.7	11.9	18.8	N/A
Volumetric Flowrate	M^3/s	4	4	0.003	0.0	0.01	N/A
Molecular Weight of Stack Gases	g/g-mole	4	4	29	29.4	30.1	N/A
Sulfuric Acid and sulphur trioxide	Mg/m^3	4	4	1.1	4.0	6.41	35
Dry gas density	Kg/m^3	4	4	1.29	1.3	1.34	N/A
Velocity	m/s	4	4	1.8	2.2	3.2	N/A
Moisture	%	4	4	54.2	65.2	71.7	N/A
Carbon Dioxide	%	4	4	1.3	8.1	15.9	N/A

Appendix A Air Quality Monitoring Results

EPA Monitoring Point 6							
Pollutant	**Unit**	**No. of Samples Required**	**No. of Samples Collected**	**Lowest Sample**	**Mean of Samples**	**Highest Sample**	**Licence Limit**
Temperature	Degrees Celcius	4	4	24	27.4	30	N/A
Oxygen (O2)	%	4	4	20.9	20.9	21	N/A
Volumetric Flowrate	M^3/s	4	4	0.19	0.2	0.21	N/A
Molecular Weight of Stack Gases	g/g-mole	4	4	28.8	28.8	28.8	N/A
Odour	ou	4	4	<58	89.3	108	N/A
Dry gas density	Kg/m^3	4	4	1.29	1.3	1.29	N/A
Velocity	m/s	4	4	6.6	7.0	7.2	N/A
Moisture	%	4	4	0.1	0.6	1.6	N/A
Carbon Dioxide	%	4	4		0.0		N/A

Appendix B Flare Event Monitoring

The RPGP flare log is provided in this Appendix from July 2007 to June 2008.

Date	Time	Duration	Light (Day, Dusk, Night, Dawn)	No. Compressor on line	Cause of flare occurrence
12-Jul-07	08:01	2:22	Day	0	Comp 1 down, Comp 2 shutdown surge (high suction press), Plant ESD
30-Jul-07	04:35	0:12	Night	0	Global ESD
15-Aug-07	23:22	0:22	Night	0	Comp 1 electrical fault, plant ESD
26-Aug-07	12:44	0:41	Day	0	Comp 1 electrical fault, Comp 3 Fan vibration, Discharge Scrubber press Lo, Plant ESD
26-Aug-07	22:47	3:54	Night	0	DCS Shutdown
04-Sep-07	12:40	0:06	Day	0	Controlled shutdown to reset power to RC2000 (unit 1)
25-Sep-07	04:30	2:35	Dawn	0	DCS Shutdown