AGL UPSTREAM INVESTMENTS PTY LTD
ROSALIND PARK GAS PLANT
Monthly Continuous Air Monitoring Report

Reporting Period: May 2016

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Foreword

PREMISES	Rosalind Park Gas Plant Lot 35 Medhurst Road GILEAD NSW 2560
LICENCE DETAILS	Environment Protection Licence 12003
LICENCEE	AGL Upstream Investments Pty Limited
LICENCEE'S ADDRESS	Locked Bag 1837, North Sydney, NSW 2060
REPORTING PERIOD	01 May 2016 to 31 May 2016
DATE of MONITORING	Continuous
OBTAINED DATA DATE	14 June 2016
REPORT DATE	15 June 2016
REPORT PREPARED BY	Aaron Clifton Environment Business Partner

SUMMARY OF ACTIVITY

Rosalind Park Gas Plant, located approximately 60km south west of Sydney, is a natural gas processing and treatment plant, used to process coal seam natural gas from the Camden Gas Project.

Produced natural gas is cleaned, dehydrated, compressed and odourised before being measured and transported by pipeline about 500 metres into the nearby Moomba to Sydney Natural Gas Pipeline. The premises are covered by Environment Protection Licence 12003 which includes all gas wells, gas gathering, reticulation systems, trunk lines and associated effluent storage areas and work areas of the Camden Gas Project.

This Monitoring Report relates to those air monitoring activities specified in Part 5, Monitoring and Recording Conditions, of the Environment Protection Licence. The Licence conditions stipulate air monitoring is required to be carried out at the locations, at the frequency and using the test methods as set out in the tables below.

This report sets out the results of continuous monitoring summarized on a monthly basis. A separate report is issued for quarterly monitoring.

This report is prepared in accordance with the *Requirements for Publishing Pollution Monitoring Data* (EPA, October, 2013) (**Publication Requirements**).

AIR MONITORING LOCATIONS

Point	Location	Monitoring Frequency
1	Exhaust Stack 1 on Compression Engine 1	Continuous
2	Exhaust Stack 2 on Compression Engine 2	Continuous
3	Exhaust Stack 3 on Compression Engine 3	Continuous

Note: monitoring is only undertaken when the compression engines are running.

AIR MONITORING TEST METHODS – POINTS 1, 2 and 3

Parameter	NSW EPA Test Method (Sampling Method)	Reference Method
Oxides of Nitrogen	CEM-2	USEPA Performance Specification 2
Temperature	TM-2	USEPA Method 2
Moisture content	Method approved by EPA in writing	Calibration by reference to TM-22
Volumetric Flow Rate	CEM-6	USEPA Performance Specification 6
Oxygen	CEM-3	USEPA Performance Specification 3

USEPA Method refers to the US Environmental Protection Agency 2000, Code of Federal Regulations, Title 40, Part 60, Appendix A Methods.

USEPA Performance Specification refers to the US Environmental Protection Agency 2000, Code of Federal Regulations, Title 40, Part 60, Appendix B, Performance Specifications.

Air Monitoring Results

Continuous monitoring results are based on test results obtained over a one-hour averaging period as set out in Schedule 5 of the *Protection of the Environment Operations (Clean Air) Regulation* 2010 (NSW).

Monitoring Point	Description	Pollutant	Units of measure	Oxygen correction	Sampling method	Monitoring frequency required by licence	Number of times measured during sampling period	Minimum value	Average value	Maximum value	Concentration Limit
1	Compressor Engine 1	Oxides of Nitrogen (as NO_2 equivalent)	Milligrams per cubic metre	7% oxygen	CEM-2	Continuous	*Compressor Engine resumed operation on 25 May 2016 under EPL 12003 Special Condition E1.* *Results will be separately reported under EPL 12003 Condition E1.11.*	-	-	-	461
		Temperature	Degrees Celsius		TM-2	Continuous		-	-	-	Not applicable
		Moisture	Percent		Method approved by EPA	Continuous		-	-	-	Not applicable
		Volumetric flow rate	Cubic metres per second		CEM-6	Continuous		-	-	-	Not applicable
		Oxygen	Percent		CEM-3	Continuous		-	-	-	Not applicable
2	Compressor Engine 2	Oxides of Nitrogen (as NO_2 equivalent)	Milligrams per cubic metre	7% oxygen	CEM-2	Continuous	*Compressor Engine 2 operated from 1-31 May 2016. The CEMS of Compressor Engine 2 was operating for 45 minutes of every one hour period. The remaining 15 minute period was down time for cleaning purposes. See Note 1.*	9.54	45.11	73.50	461
		Temperature	Degrees Celsius		TM-2	Continuous		306.86	487.65	511.65	Not applicable
		Moisture	Percent		Method approved by EPA	Continuous		See Note 1	See Note 1	See Note 1	Not applicable
		Volumetric flow rate	Cubic metres per second		CEM-6	Continuous		See Note 1	See Note 1	See Note 1	Not applicable
		Oxygen	Percent		CEM-3	Continuous		0.24	0.35	0.62	Not applicable
3	Compressor Engine 3	Oxides of Nitrogen (as NO_2 equivalent)	Milligrams per cubic metre	7% oxygen	CEM-2	Continuous	*Compressor Engine 3 operated from 1-20 and 31 May 2016. The CEMS of Compressor Engine 3 was operating for 45 minutes of every one hour period. The remaining 15 minute period was down time for cleaning purposes. See Note 2.*	36.20	42.31	53.88	461
		Temperature	Degrees Celsius		TM-2	Continuous		461.80	506.00	516.31	Not applicable
		Moisture	Percent		Method approved by EPA	Continuous		See Note 2	See Note 2	See Note 2	Not applicable
		Volumetric flow rate	Cubic metres per second		CEM-6	Continuous		See Note 2	See Note 2	See Note 2	Not applicable
		Oxygen	Percent		CEM-3	Continuous		0.48	0.63	1.09	Not applicable

Air Monitoring Results

Ektimo has been engaged by AGL to undertake independent monitoring each month. Results for monitoring undertaken by Ektimo (Report R002741) on 10 May 2016 are as follows:

Monitoring Point	Description	Pollutant	Units of measure	Oxygen correction	Sampling method	Average result
1	Compressor Engine 1	Oxides of Nitrogen (as NO_2 equivalent)	milligrams per cubic metre	7% oxygen	TM-11	No Result*
		Temperature	degrees Celsius		TM-2	No Result*
		Moisture	percent		TM-22	No Result*
		Volumetric flow rate	cubic metres per second		TM-2	No Result*
		Oxygen	percent		TM-25	No Result*
2	Compressor Engine 2	Oxides of Nitrogen (as NO_2 equivalent)	milligrams per cubic metre	7% oxygen	TM-11	3.4
		Temperature	degrees Celsius		TM-2	475
		Moisture	percent		TM-22	19
		Volumetric flow rate	cubic metres per second		TM-2	1
		Oxygen	percent		TM-25	0.5
3	Compressor Engine 3	Oxides of Nitrogen (as NO_2 equivalent)	milligrams per cubic metre	7% oxygen	TM-11	41
		Temperature	degrees Celsius		TM-2	472
		Moisture	percent		TM-22	20
		Volumetric flow rate	cubic metres per second		TM-2	0.94
		Oxygen	percent		TM-25	0.8

*Due to mechanical issues, Compressor Engine 1 was not operating on 10 May 2016.

Notes:

1. In accordance with Section 3.4.1 of the EPA Publication Requirements, the following data points have not been included for Monitoring Point 2 (Compressor #2 exhaust stack) as AGL knows that the data has been unable to be collected or is incorrect.

Date	Approximate total hours	Pollutant	Justification
1-31 May 2016	728	Volumetric Flow Rate, Moisture	Data unable to be collected due to component failure. AGL has been unable to repair the failed component and is trialing alternative monitoring methods in consultation with the EPA.
13 and 28 May 2016	4	Oxides of Nitrogen, Oxygen, Temperature	Data unable to be collected due to component failure. AGL was able to repair the failed component.

2. In accordance with Section 3.4.1 of the EPA Publication Requirements, the following data points have not been included for Monitoring Point 3 (Compressor #3 exhaust stack) as AGL knows that the data has been unable to be collected or is incorrect.

Date	Approximate total hours	Pollutant	Justification
1-20 and 31 May 2016	458	Volumetric Flow Rate, Moisture	Data unable to be collected due to component failure. AGL has been unable to repair the failed component and is trialing alternative monitoring methods in consultation with the EPA.
12 and 13 May 2016	4	Oxides of Nitrogen, Oxygen, Temperature	Data unable to be collected due to component failure. AGL was able to repair the failed component.