

# Air Quality Management Sub Plan

Camden Gas Project  
March 2022





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## Table of abbreviations

Term	Description
°C	Degrees Celsius
AGL	AGL Upstream Investments Pty Ltd
AQMSP	Air Quality Management Sub Plan
Cd	Cadmium
CEMS	Continuous Emissions Monitoring System
CGP	Camden Gas Project
CL <sub>2</sub>	Chlorine
CoC	Conditions of Consent
DA	Development Approval
DPI&E-MEG	NSW Department of Planning, Industry and Environment – Mining, Exploration and Geoscience
DPI&E	NSW Department of Planning, Industry and Environment
EPA	Environment Protection Authority
EPL	Environment Protection Licence
F	Fluorine
GGL	Gas Gathering Line
H <sub>2</sub> SO <sub>4</sub>	Sulfuric acid
HCl	Hydrogen chloride
Hg	Mercury
kg	Kilograms
LDAR	Leak Detection and Repair
MP	Monitoring Point
mg/m <sup>3</sup>	Milligrams per cubic metre
NO	Nitric oxide
NO <sub>2</sub>	Nitrogen dioxide
NO <sub>x</sub>	Oxides of Nitrogen
NPI	National Pollutant Inventory
PEMS	Predictive Emissions Monitoring System
POEO (General) Regulation (2009)	Protection of the Environment Operations (General) Regulation (2009)
PIRMP	Pollution Incident Response Management Plan



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Term	Description
PPE	Personal Protective Equipment
RPGP	Rosalind Park Gas Plant
S	Seconds
SO <sub>2</sub>	Sulfur dioxide
SO <sub>3</sub>	Sulfur trioxide
SoC	Statement of Commitment
SOP	Standard Operating Procedure
TEG	Triethylene Glycol
TSP	Total Suspended Particulates
VOCs	Volatile organic compounds



## 1. Introduction

This Air Quality Management Sub Plan (AQMSP) has been prepared to supplement the Environment Management Plan (EMP) for the AGL Upstream Investments Pty Ltd (AGL) Camden Gas Project ('the project' or 'CGP'). The CGP includes the Rosalind Park Gas Plant (RPGP) and associated field activities.

The EMP includes a description of the CGP and the overall environmental management framework for the CGP. The AQMSP has been developed to specifically address and manage potential air quality issues for the operations of the CGP. More information is available in the EMP.

### 1.1 Objective

The objectives of the AQMSP are to prevent or minimise air pollution by:

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

### 1.2 Target

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

### 1.3 Responsibilities

The roles and responsibilities for the development, implementation, and review of this AQMSP are summarised in **Table 1.1**.

**Table 1.1: Roles and responsibilities – Air Quality Management Sub Plan**

Role	Responsibility
Environment Business Partner	<ul style="list-style-type: none"> <li>• Informing site personnel and contractors of the required procedures for the management of air quality via an induction program.</li> <li>• Revision of the AQMSP following:               <ul style="list-style-type: none"> <li>– Changes to air quality monitoring and management in the EPL</li> <li>– Modifications and/or new Development Approvals</li> <li>– Changes to air quality regulations</li> <li>– Changes to operations and maintenance with impacts on air quality</li> <li>– At least annually to assess adequacy.</li> </ul> </li> </ul>
Operations Superintendent	<ul style="list-style-type: none"> <li>• Directly responsible for the implementation of this AQMSP.</li> </ul>
Field and Rehabilitation Operator	<ul style="list-style-type: none"> <li>• Landowner consultation: address and manage complaints in relation to air quality management.</li> </ul>



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Role	Responsibility
All leaders	<ul style="list-style-type: none"><li>Responsible for ensuring that works under their control are undertaken in accordance with the AQMSP. Responsible for ensuring that employees and contractors under their control are familiar with and adhere to the requirements of the AQMSP.</li></ul>
Contractors	<ul style="list-style-type: none"><li>Responsible for following the AGL induction requirements that arise from their work activities onsite, so as to minimise the environmental impact.</li></ul>
All employees	<ul style="list-style-type: none"><li>Maintaining air quality from their work activities and working in a manner so as to minimise air quality impacts.</li></ul>



## 2. Requirements

### 2.1 Key licence and development consent requirements

The key Environment Protection Licence (EPL) and development consent requirements relating to air quality management are included in **Table 2.1**.

**Table 2.1: Key licence and development consent requirements**

Aspect	Reference	Requirement	Relevant section
Air Emission Monitoring (RPGP)	EPL 12003, Conditions P1.1, L3, M2	The location of monitoring points, concentration limits, methods for sampling and analysis and frequency of monitoring are specified for pollutants.	Table 2.5
	EPL 12003, Condition U1	Undertake a 6 month trial of a Predictive Emissions Monitoring System (PEMS) on Compressor Engine 2 and Compressor Engine 3. Note: This trial is complete	Table 2.5
Assessable Pollutants (Load Limits) (RPGP)	EPL 12003, Condition L2	The load limits are specified for assessable pollutants.	Table 2.6
Ambient Air Quality (RPGP)	DA-282-6-2003, Schedule 4 CoC 47	Ambient air quality criteria for privately owned residences around the RPGP are specified.	Table 2.3
Main Flare Combustion Parameters (RPGP)	DA-282-6-2003, Schedule 4 CoC 50	The combustion parameters for the main flare at RPGP are specified.	Table 2.4

Aspect	Reference	Requirement	Relevant section
Dust Minimisation (RPGP and Field)	EPL 12003, Condition O3. DA 15-1-2002, CoC 58; DA 246-8-2002, CoC 25, 26 and 27; DA 282-6-2003, Sch 4 CoC 52 and 53; DA 75-4-2005, CoC 23; DA 171-7-2005, Sch 3 CoC 9; and DA 183-8-2004 Statement of Commitment (SoC) 44; PA06_0137 Sch 3 CoC 7 and SoC 5; PA06_0138 Sch 3 CoC 7 and SoC 5; PA06_0291 Sch 4 CoC 8 and SoC 6	Activities (including construction and operation) shall be carried out in a manner that will minimise the emission of dust, including traffic generated dust.	Table 3.1
Odours (RPGP and field)	EPL 12003, Condition L7; DA 15-1-2002, CoC 52; DA 282-6-2003, Sch 4 CoC 64; and DA 171-7-2005, Sch 3 CoC 9.	AGL shall not cause or permit any offensive odours to be emitted from the site.	Table 3.1
	DA 282-6-2003, Sch 4 CoC 65.	Detectable methyl mercaptan odour should not be emitted from the premises	Table 3.1
Incident Notification (RPGP and field)	EPL 12003, Conditions R2 and R3	Notification of incidents causing or threatening to cause environmental harm to the EPA.	Table 3.1 and Table 4.1
Fugitive Emissions (RPGP and Field)	EPL 12003, Condition R4.1 and R4.2	Submit a brief summary report to the EPA on the Leak Detection and Repair (LDAR) program with the annual return.	Table 4.1
	EPL 12003, Condition M7.2 and M7.3	Operate an LDAR program for all relevant parts of plant and equipment, and monitor for the detection of leaks in accordance with US EPA Method 21.	Table 3.1

Aspect	Reference	Requirement	Relevant section
Fugitive Emissions (Field)	DA 183-8-2004 SoC 45	The Proponent shall arrange for annual inspection of the twinned GGL between MP16 and MP30 by a specialist third party gas detection inspection service. The leakage survey of the below ground pipelines will be conducted at a sensitivity of 10 parts per million.	Table 3.1
EPL Annual Return (RPGP)	EPL 12003, Condition R1	Annual return including statement of compliance and monitoring and complaints summary submitted to the EPA.	Table 4.1

## 2.2 Key legislative and regulatory requirements

The key regulatory requirements relating to air emissions are listed in **Table 2.2**. Further details of the legislation are provided in Appendix C.

**Table 2.2: Key regulatory requirements**

Legislation/ Policy	Relevance
<b>Protection of the Environment Operations Act 1997</b>	
Part 3.4 s63	As AGL undertakes a Scheduled Activity (as per Schedule 1 of the POEO Act) it is consequently required to operate under an EPL. The EPL sets air emission concentration standards and RPGP must comply with those standards.
Part 3.5 s66	As AGL is a holder of an EPL that includes conditions that require monitoring, AGL must make the monitoring data that relates to pollution publicly and prominently available on the licensee's website. The data must be published on the website within 14 business days of receiving the monitoring data. It is also an offence to provide false or misleading information, certificates or published results.
Part 5.2 s116	It is an offence to wilfully or negligently cause any substance to leak, spill or otherwise escape (whether or not from a container) in a manner that harms or is likely to harm the environment.
Part 5.4 Division 1 s124	It is an offence to cause air pollution by failure to maintain the plant in an efficient condition or operate the plant in a proper and efficient manner
Part 5.4 Division 1 s125	It is an offence to cause air pollution, or part of, if the air pollution is caused by the occupier's failure to carry out maintenance work in a proper and efficient manner.

Legislation/ Policy	Relevance
Part 5.4 Division 1 s126	It is an offence to cause air pollution, or part of, if the air pollution is caused by the occupier's failure to process, handle, move, store or dispose of materials in a proper and efficient manner.
Part 5.4 Division 1 s128	<p>It is an offence to cause or permit the air emissions at any release point to be above the standard in stack concentration or rate prescribed by the regulations in respect of any such activity or any such plant.</p> <p>The occupier of any premises must carry on any activity, or operate any plant, in or on the premises by such practicable means as may be necessary to prevent or minimise air pollution if:</p> <ul style="list-style-type: none"> <li>a) in the case of point source emissions-neither a standard of concentration nor a rate has been prescribed for the emissions for the purposes of subsection (1), or</li> <li>b) the emissions are not point source emissions.</li> </ul>
Part 5.4 Division 1 s129	It is an offence to cause or permit the emission of any offensive odour from a premise.
Part 5.7 s148	Pollution incidents causing or threatening material harm to be notified to the EPA. In the event of an incident the employee has a duty to notify the employer. Once the employer is notified the EPA or other relevant authority must be notified immediately.
<b>Protection of Environmental Operations (Clean Air) Regulation 2010</b>	
Division 2 s15	Motor vehicles used by AGL that are propelled by a spark-ignition or diesel engine, must not emit excessive air impurities that are visible for more than 10 consecutive seconds.
Schedule 2	Sets the maximum in-stack concentration limits on air emissions from afterburners, flares and vapour recovery units, including TSP, NO <sub>2</sub> , NO, HCl, Type 1 substances, Type 2 substances, Cd, Hg, dioxins, furans, VOCs, and smoke.
Schedule 4	Sets maximum in-stack concentration limits on air emissions from Scheduled Premises for a number of substances, including total suspended particles (TSP), nitrogen dioxide (NO <sub>2</sub> ) or nitric oxide (NO) or both as NO <sub>2</sub> equivalent, sulphur dioxide (SO <sub>2</sub> ), sulphuric acid mist (H <sub>2</sub> SO <sub>4</sub> ) or sulphur trioxide (SO <sub>3</sub> ), fluorine (F), chlorine (CL <sub>2</sub> ), hydrogen chloride (HCl), Type 1 substances, Type 2 substances, Cadmium (Cd), Mercury (Hg), dioxins, furans, volatile organic compounds (VOCs), and smoke.
Schedule 5 Approved Methods for the Sampling and Analysis of Air Pollutants in NSW	Sampling and monitoring must be undertaken in accordance with the methods specified in the Clean Air Regulation, the relevant test method from the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales, or in a manner approved in writing by the EPA.

Legislation/ Policy	Relevance
<b>Protection of the Environment Operations (General) Regulation 2009</b>	
Chapter 2, Division 3	As AGL holds an EPL, it is required to calculate, using the methods specified under the Load Calculation Protocol, the actual load (and fee) for each assessable pollutant discharged under the licence during the licence fee period, and pays this fee.
Chapter 4 Part 1 s62	AGL is required to submit air emission data annually for CGP as part of the National Pollutant Inventory (NPI).
<b>National Greenhouse and Energy Reporting Act 2007</b>	
Part 3	AGL is required to provide annual data and accounting in relation to greenhouse gas emissions and energy consumption and production.

### 2.3 Ambient air quality criteria

Nitrogen dioxide, Sulphuric acid mist and Sulphur dioxide and Methyl mercaptan concentrations are measured at the emission points of the RPGP and compared to the input data used in the modelling for air quality assessments, prepared by Environmental Resources Management Australia (ERMA, 2003) as part of the Camden Gas Project Stage 2 Environmental Impact Statement (Sydney Gas Ltd, 2003). The results assess compliance with air emission limits at the RPGP and therefore compliance at the nearest residence. A figure showing the nearest sensitive receptors is included in Appendix B. The CGP is not within an Air Quality Control Region or Area of Special Significance. The requirements for monitoring ambient air quality at RPGP are listed in **Table 2.3**.

**Table 2.3: Ambient air quality criteria**

Location	Pollutant	Averaging period	Criteria	Method	Frequency	Responsible person
Privately owned residence	Nitrogen dioxide	1 hour	246 µg/m <sup>3</sup>	Compare quarterly stack testing results with input data used in air quality assessment (ERMA, 2003)	Annually	Environment Business Partner
		Annual	62 µg/m <sup>3</sup>			
	Sulphur dioxide	1 hour	570 µg/m <sup>3</sup>			
		Annual	60 µg/m <sup>3</sup>			
	Sulphuric acid mist	3 minute	33 µg/m <sup>3</sup>			
	Methyl mercaptan	3 minute	0.84 µg/m <sup>3</sup>			



## 2.4 Main flare monitoring

The requirements for monitoring the RPGP main flare are listed in **Table 2.4**.

**Table 2.4: Main flare monitoring**

Parameter	Units of measure	Averaging period
Residence time	S	Instantaneous
Averaging period	°C	Instantaneous

## 2.5 Air emission monitoring

The requirements for monitoring air emissions at the RPGP are listed in **Table 2.5**. The locations of the Monitoring Points 1-6 are shown in 'Camden Gas Project Site Plan Location of Emission Points' as per the EPL and also provided in Appendix A of this document.

RPGP Compressors Engine 1 (EPA Monitoring Point 1) is equipped with a continuous emissions monitoring system (CEMS). The CEMS provides continuous sampling and analysis of the engine exhaust emissions during the operation of compressor.

AGL has also entered into a Pollution Reduction Program with the EPA to undertake a 6 month PEMS trial on RPGP Compressor Engines 2 and 3. The PEMS trial was completed in April 2016 and AGL is now operating a PEMS as an alternative to CEMS for Compressor Engines 2 and 3.

## 2.6 Assessable pollutant loads

Assessable pollutants are pollutants which affect the licence fee payable for the EPL. The EPL stipulates load limits for assessable pollutants which must not be exceeded during the reporting period from the premises. The calculation of the annual load of each air pollutant is to be completed in accordance with EPA's Load Calculation Protocol. Assessable pollutants and load limits for the RPGP are provided in **Table 2.6**.

## 2.7 National pollutant inventory

Australia has a National Pollutant Inventory (NPI) that contains information on 93 substances that are emitted to the environment. The substances included in the NPI have been identified as important because of their possible health and environmental effects. In order to comply with the National Environment Protection (National Pollutant Inventory) Measure ("NPIM") made under Division 2 of Part 3 of the National Environment Protection Council Act 1994, AGL is required to report if an NPI reporting threshold for a substance is exceeded in a reporting period.

## 2.8 National greenhouse gas and energy reporting

Australia introduced a single, national framework for corporations to report on greenhouse gas emissions, energy use and energy production, the National Greenhouse and Energy Reporting (NGER) Scheme. The Scheme operates under the National Greenhouse and Energy Reporting Act 2007. AGL has registered under the Scheme and is required to report annually as RPGP meets a NGER threshold. The information collected through the NGER Scheme provides the basis for assessing liability under the carbon pricing mechanism.



**Table 2.5: Air emission monitoring (RPGP)**

Monitoring Point	Parameter	Concentration Limit	Frequency	Test Method <sup>Note 1</sup>	Responsibility
Point 1 Compressor Engine 1 Exhaust Stack; and Point 2 Compressor Engine 2 Exhaust Stack; and Point 3 Compressor Engine 3 Exhaust Stack	(Compressor Engine 1) Nitrogen oxides, mg/m <sup>3</sup>	461	Continuous (CEMS)	CEM-2	Environment Business Partner
	(Compressor Engine 1) Nitrogen oxides, mg/m <sup>3</sup>	461	Quarterly	TM-11	
	(Compressor Engine 2 and 3) Nitrogen oxides, mg/m <sup>3</sup>	220	Quarterly Continuous	TM-11 PEMS	
	Sulphur dioxide, mg/m <sup>3</sup>	7.0	Quarterly	TM-3	
	Sulphuric acid mist and sulphur trioxide, mg/m <sup>3</sup>	5.0	Quarterly	TM-3	
	Carbon dioxide, %	N/A	Quarterly	TM-24	
	Dry gas density, kg.m <sup>3</sup>	N/A	Quarterly	TM-23	
	(Compressor Engine 1) Moisture, %	N/A	Continuous	EPA approved method	
	Moisture, %	N/A	Quarterly	TM-22	
	Molecular weight of stack gases g / gmol	N/A	Quarterly	TM-23	
	(Compressor Engine 1) Oxygen, %	N/A	Continuous	CEM-3	
	Oxygen, %	N/A	Quarterly	TM-25	
	(Compressor Engine 1) Temperature, °C	N/A	Continuous	TM-2	
	Temperature, °C	N/A	Quarterly	TM-2	
	Velocity, m/s	N/A	Quarterly	TM-2	



Monitoring Point	Parameter	Concentration Limit	Frequency	Test Method <sup>Note 1</sup>	Responsibility
	(Compressor Engine 1) Volumetric flow rate, m <sup>3</sup> /s	N/A	Continuous	CEM-6	
	Volumetric flow rate, m <sup>3</sup> /s	N/A	Quarterly	TM-2	
Point 4 Reboiler Flue	Nitrogen oxides mg/m <sup>3</sup>	110	Quarterly	TM-11	Environment Business Partner
	Sulphur dioxide, mg/m <sup>3</sup>	35	Quarterly	TM-3	
	Sulphuric acid mist and sulphur trioxide, mg/m <sup>3</sup>	3.5	Quarterly	TM-3	
	Carbon dioxide, %	N/A	Quarterly	TM-24	
	Dry gas density, kg.m <sup>3</sup>	N/A	Quarterly	TM-23	
	Moisture, %	N/A	Quarterly	TM-22	
	Molecular weight of stack gases g / gmol	N/A	Quarterly	TM-23	
	Oxygen, %	N/A	Quarterly	TM-25	
	Temperature, °C	N/A	Quarterly	TM-2	
	Velocity, m/s	N/A	Quarterly	TM-2	
	Volumetric flow rate, m <sup>3</sup> /s	N/A	Quarterly	TM-2	
Point 5 Reflux Column Vent	Nitrogen oxides, mg/m <sup>3</sup>	13	Quarterly	TM-11	
	Sulphur dioxide, mg/m <sup>3</sup>	1,042	Quarterly	TM-3	
	Sulphuric acid mist and sulphur trioxide, mg/m <sup>3</sup>	35	Quarterly	TM-3	
	Carbon dioxide, %	N/A	Quarterly	TM-24	
	Dry gas density, kg.m <sup>3</sup>	N/A	Quarterly	TM-23	





Monitoring Point	Parameter	Concentration Limit	Frequency	Test Method <sup>Note 1</sup>	Responsibility
	Moisture, %	N/A	Quarterly	TM-22	
	Molecular weight of stack gases g / gmol	N/A	Quarterly	TM-23	
	Oxygen, %	N/A	Quarterly	TM-25	
	Temperature, °C	N/A	Quarterly	TM-2	
	Velocity, m/s	N/A	Quarterly	TM-2	
	Volumetric flow rate, m <sup>3</sup> /s	N/A	Quarterly	TM-2	
Point 6 Scrubber Vent Discharge Stack	Carbon dioxide,%	N/A	Quarterly	TM-24	
	Dry gas density, kg.m <sup>3</sup>	N/A	Quarterly	TM-23	
	Moisture, %	N/A	Quarterly	TM-22	
	Molecular weight of stack gases g / gmol	N/A	Quarterly	TM-23	
	Odour	N/A	Quarterly	OM-7	
	Oxygen, %	N/A	Quarterly	TM-25	
	Temperature, °C	N/A	Quarterly	TM-2	
	Velocity, m/s	N/A	Quarterly	TM-2	
	Volumetric flow rate, m <sup>3</sup> /s	N/A	Quarterly	TM-2	
Point 7 Flare Pilot	N/A	N/A	N/A	N/A	Environment Business Partner
RPGP and well sites leak detection survey	Methane (sensitivity of 10 parts per million)	N/A	Annual	US EPA Method 21	Environment Business Partner



Note 1: Sampling and monitoring must be undertaken in accordance with the methods specified in the POEO (Clean Air) Regulation 2009, the relevant test method from the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales, or in a manner approved in writing by the EPA (e.g. provided in the EPL).

**Table 2.6: Assessable pollutant**

Monitoring Point	Parameter	Assessable Load Limit	Frequency	Test Method	Responsibility
Point 1 Compressor Engine 1 Exhaust Stack;	Nitrogen Oxides –summer, kg	N/A	Annual	TM-11	Environment Business Partner
	Nitrogen Oxides, kg	103,000	Annual	TM-11	
Point 2 Compressor Engine 2 Exhaust Stack;	Benzene, kg	47	Annual	TM-34	
	Benzo(a)pyrene, kg	0.27	Annual	OM-6	
Point 3 Compressor Engine 3 Exhaust Stack;	Particulate matter less than 10 µg (PM10), kg	460	Annual	OM-5	
	Hydrogen sulphide, kg	1.60	Annual	TM-5	
Point 4 Reboiler Flue;	Sulfur oxides	3000	Annual	TM-4	
Point 5 Reflux Column Vent;	Total volatile organic compounds (VOCs) – summer, kg	N/A	Annual	TM-34	
Point 6 Scrubber Vent Discharge Stack	VOCs, kg	33,000	Annual	TM-34	



### 3. Management and controls

The management and control measures to eliminate and/or minimise air emissions are listed in **Table 3.1**. These measures apply to the construction, operation and rehabilitation phases of the project and take into consideration best practice management measures for air emission control in addition to measures specified within the EPL, Project Approvals and Environmental Assessments.



**Table 3.1: Air quality management and control measures**

Activity	Control Measure	Frequency	Responsibility
General	Undertake inductions for site personnel that includes (where relevant): <ul style="list-style-type: none"> <li>• Overview of the AQSMP Objectives and key Responsibilities</li> <li>• Location of sensitive receptors for air emissions</li> <li>• Incident reporting for air quality related incidents (including Pollution Incident Response Management Plan and Emergency Response Plan)</li> </ul>	CGP Employee and Contractor HSE Inductions	Environment Business Partner
Training	Train Operators in SOPs for the operation and maintenance of air emission monitoring equipment including: <ul style="list-style-type: none"> <li>• CEMS (AEL 8612445; AEL 8612441; AEL 8451612)</li> <li>• PEMS (AEL 8612465)</li> <li>• LDAR (AEL 11537558)</li> </ul>	When new operators commence Following changes to the SOP	Operations Superintendent
Operating Plant and Equipment	• Verification of CEMS data (AEL 8451612)	Daily	Ecotech (Compressor 1)
	• Review QA/QC process of Ecotech CEMS data for Compressor 1 (AEL 8451612)	Monthly	Environment Business Partner



Activity	Control Measure	Frequency	Responsibility
	<ul style="list-style-type: none"> <li>Undertake operations in accordance with SOPs</li> <li>Undertake corrective actions when high level alarms are recorded on CEMS and PEMS equipment</li> <li>When identifying control measures for the management of air emissions, implement the hierarchy of controls (eliminate the source, substitute, engineering, administrative, PPE)</li> <li>Operate plant and equipment (including compressors, reboilers, scrubbers, flares, gas gathering line, air emission monitoring equipment, infrastructure and drilling /workover rigs) in an efficient manner to minimise air emissions</li> <li>Operate plant and equipment in a manner that limits greenhouse gas emissions (e.g. optimise and schedule vehicle activities to reduce fuel consumption).</li> <li>Minimise the volume of gas that is flared</li> </ul>	Ongoing	Operations Superintendent
	<ul style="list-style-type: none"> <li>Undertake inspection of RPGP and assess for odour and air emissions (e.g. leaks) and implement corrective actions to eliminate or repair leaks.</li> </ul>	Daily	Plant Operator
	<ul style="list-style-type: none"> <li>Undertake LDAR survey of well sites and RPGP and implement corrective actions to eliminate or repair leaks (AEL 11537558).</li> </ul>	Ongoing	Operations Superintendent
	<ul style="list-style-type: none"> <li>Undertake the annual LDAR program at well sites, gas gathering lines and the RPGP (AEL 8611770).</li> </ul>	Annually	Operations Superintendent
Access to monitoring	Ensure monitoring points: <ul style="list-style-type: none"> <li>Have reasonable access.</li> <li>Are maintained in suitable condition and available for use.</li> </ul>	Ongoing	Environment Business Partner
Trigger Action Response Plan (TARP)	<ul style="list-style-type: none"> <li>When EPL 12003 air emission concentration limits are met and/or exceeded (e.g. CEMs, monthly and quarterly monitoring results), the Air Emissions TARP may be implemented.</li> </ul>	Ongoing	Operations Superintendent



Activity	Control Measure	Frequency	Responsibility
Maintenance of Plant and Equipment	<ul style="list-style-type: none"> <li>• Implement a critical spares inventory management system which includes a listing of air monitoring equipment and corresponding maintenance schedule</li> <li>• Maintain plant and equipment (including air monitoring equipment) in an efficient condition</li> <li>• Undertake maintenance following report of leaks from LDAR monitoring to eliminate air emissions</li> <li>• Maintain vehicles and machinery to comply with emission standards and minimise emissions to air</li> </ul>	Ongoing	Operations Superintendent
Construction and Rehabilitation	<ul style="list-style-type: none"> <li>• Prepare for activities to prevent and minimise dust by implementing the hierarchy of controls (eliminate the source, substitute, engineering, administrative, PPE)</li> <li>• Monitor activities to eliminate and/or minimise dust generation and emissions to air (e.g. odour).</li> <li>• Implement dust control measures, such as the use of water carts, in the event of dust generation. Vehicles shall remain on designated roads and access tracks and adhere to project vehicle speed limits.</li> <li>• Vehicles that carry a potentially dust generating load shall be covered at all times, except during loading and unloading.</li> </ul>	Ongoing	Field and Rehabilitation Operator and Construction Project Manager

## 4. Reporting and auditing

### 4.1 Reporting

#### 4.1.1 Reports

The reporting requirements for this AQSMP are provided in **Table 4.1**.

**Table 4.1: Reporting requirements**

Report	Reference	Submitted to	Frequency	Responsibility
CEMS data verification	RPGP CEMS Monthly Reporting Procedure (AEL 8451612)	AGL	Daily	Ecotech (Compressor 1)
Air quality monitoring (CEMS - Monthly)	EPL 12003, M1 RPGP CEMS Monthly Reporting Procedure (AEL 8451612)	AGL website	Monthly (within 14 business days of obtaining the monthly monitoring data)	Environment Business Partner
Air quality monitoring (Quarterly stack testing)	EPL 12003, M1	AGL website	Quarterly (within 14 business days of obtaining the quarterly monitoring data)	Environment Business Partner
Annual Return (22 December to 21 December) <sup>Note 1</sup>	EPL 12003, R1	EPA	Annually (February)	Environment Business Partner
LDAR <sup>Note 1</sup>	EPL 12003, R4.1			
Complaints <sup>Note 1</sup>	EPL 12003, M5			
Complaints	EPL 12003, M5	AGL Consultation Manager database	Ongoing	Community Relations Manager
Annual Environmental Performance Report (01 July to 30 June)	Development Consent, Project Approval and PPL Conditions	DPI&E DPI&E-MEG EPA Local Councils (x3)	Annually (October)	Environment Business Partner
National Pollutant Inventory (01 July to 30 June)	POEO (General) Regulation 2009 Chapter 4	EPA	Annually (within 3 months of end of reporting period)	Environment Business Partner

Report	Reference	Submitted to	Frequency	Responsibility
Greenhouse and Energy Data (01 July to 30 June)	Commonwealth National Greenhouse and Energy Reporting Act (2007)	Greenhouse and Energy Data Officer.	Annually (October)	Environment Business Partner
Incident Notification	EPL 12003, R2	AGL MyHSE  EPA	Immediate as described in the PIRMP <sup>Note 2</sup>	All employees
			Written notification within 7 days of incident	Environment Business Partner
AQSMP Compliance Audit	Environmental Management Sub Plan Compliance Audit – Air Quality (AEL 8610884)	AGL CMO	12 monthly	Environment Business Partner

<sup>Note 1</sup> The Annual Return includes a statement of compliance and monitoring, load based licence calculations, LDAR program summary report and complaints summary for the CGP to be submitted to the EPA

<sup>Note 2:</sup> Notification of incidents causing or threatening to cause environmental harm must be made by following the CGP PIRMP.

#### 4.1.2 Records

Records of reports identified in **Table 4.1** are required to be kept in a legible form, kept for at least 4 years and produced to any authorised officer of the EPA who asks to see them.

#### 4.1.3 Complaints

The record of air pollution complaints shall be kept in accordance with AGL's Consultation Manager database and EPL 12003 Condition M5. The Consultation Manager database should include at least:

- The date and time of the complaint
- The method by which the complaint was made
- Any personal details of the complainant which were provided by the complainant, or if no such details were provided, a note to that effect
- The nature of the complaint
- The action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant
- If no action was taken by the licensee, the reason why no action was taken.

In the event of a complaint, the complaint will be investigated by AGL to determine the cause of the complaint and corrective actions will be implemented as necessary.

## 4.2 Auditing

### 4.2.1 AQSMP compliance audit

An audit of the AQSMP shall be undertaken 12 monthly, using Environmental Management Sub Plan Compliance Audit – Air Quality (AEL 8610884).





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## **5. Administrative**

### **5.1 Site specific plans**

The location of air emission monitoring points and RPGP sensitive receptors are shown in Appendices A and B respectively.

### **5.2 Attachments**

Appendix A: Location of RPGP EPL Emission Points

Appendix B: Location of RPGP sensitive receptors

Appendix C: Relevant Legislation

### **5.3 Definitions**

Currently not applicable

### **5.4 References**

AGL CEMS (AEL 8612445; AEL 8612441; AEL 8451612)

AGL Environmental Management Sub Plan Compliance Audit – Air Quality (AEL 8610884)

AGL Environment Policy

AGL-HSE-SDM-009.4 Air Emissions Standard Methodology

AGL-HSE-STD-009.4 Air Emissions Standard

AGL Leak Detection and Repair Program (AEL 8611770; AEL 8611668)

AGL NPI reporting guideline (AGL-HSE-GUI-015.3.1)

AGL PEMS High Emissions Procedure (AEL 8612465)

AGL Trigger Action Response Plan – Air Emissions

Environmental Resources Management Australia, *Sydney Gas Air Quality Assessment*, June 2003

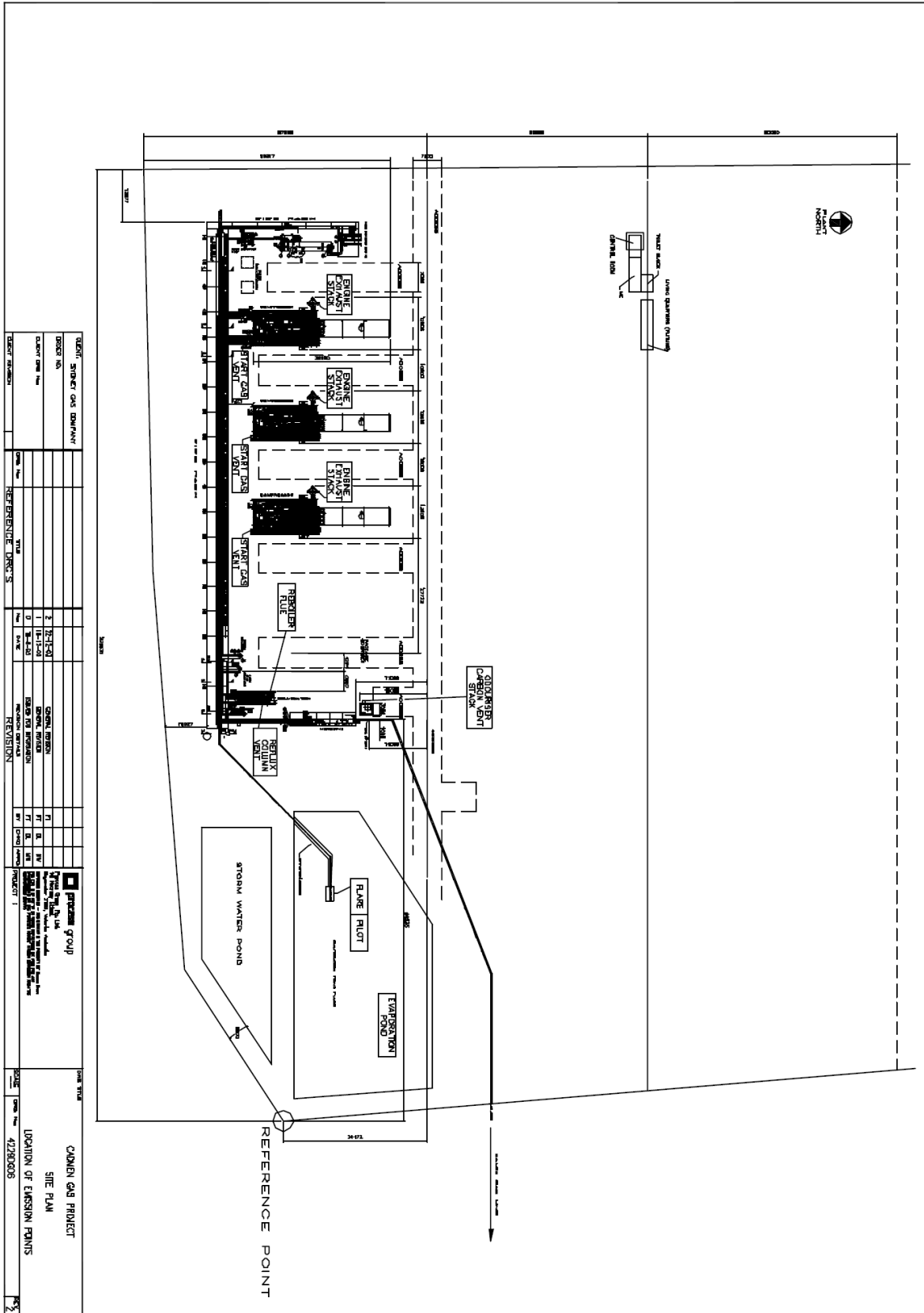
NSW EPA, Load Calculation Protocol, June 2009

Sydney Gas Ltd, Environmental Impact Statement Camden Gas Project Stage 2, June 2003

# Appendix A

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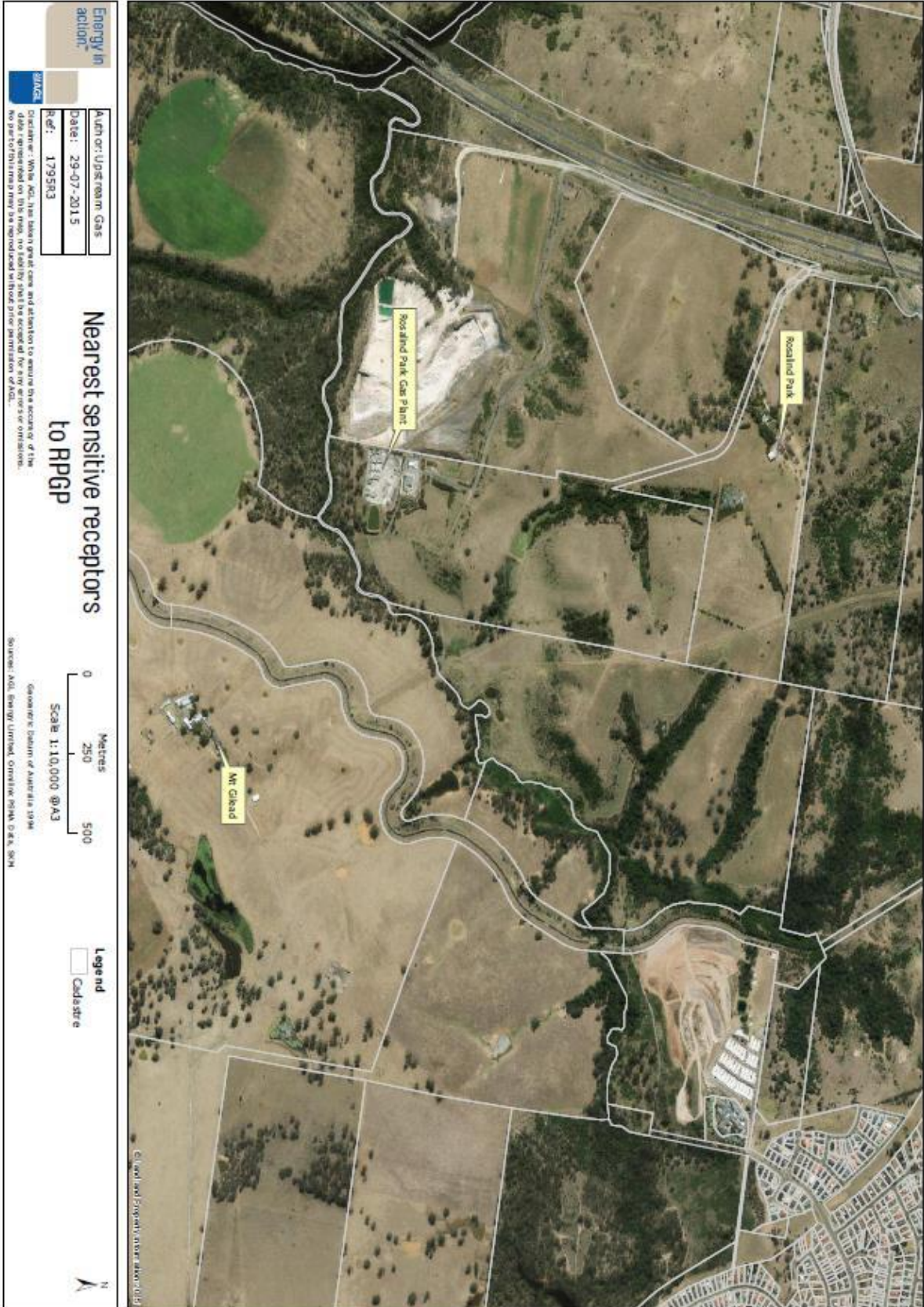
Location of RPGP EPL emission points



# Appendix B

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Location of RPGP sensitive receptors



# Appendix C

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Legislation



## Legislation

Legislation/ Policy	Relevance
<b>Protection of the Environment Operations Act 1997</b>	
Part 3.5 66	<p>Conditions requiring monitoring, certification or provision of information, and related offences</p> <p>(1) Monitoring</p> <p>The conditions of a licence may require:</p> <p>(a) monitoring by the holder of the licence of the activity or work authorised, required or controlled by the licence, including with respect to:</p> <ul style="list-style-type: none"> <li>(i) the operation or maintenance of premises or plant, and</li> <li>(ii) discharges from premises, and</li> <li>(iii) relevant ambient conditions prevailing on or outside premises, and</li> <li>(iv) anything required by the conditions of the licence, and</li> </ul> <p>(b) the provision and maintenance of appropriate measuring and recording devices for the purposes of that monitoring, and</p> <p>(c) the analysis, reporting and retention of monitoring data.</p> <p>(2) False or misleading information</p> <p>A holder of a licence who supplies information, or on whose behalf information is supplied, to the appropriate regulatory authority under the conditions of the licence is guilty of an offence if the information is false or misleading in a material respect.</p> <p>Maximum penalty:</p> <ul style="list-style-type: none"> <li>(a) in the case of a corporation—\$1,000,000, or</li> <li>(b) in the case of an individual—\$250,000.</li> </ul> <p>(2A) Conditions relating to certain information</p> <p>The conditions of a licence may require the holder of a licence to supply to the appropriate regulatory authority information relating to a pollution incident to which Part 5.7 applies in addition to the information required under that Part.</p> <p>(3) Certification</p> <p>The conditions of a licence may require the holder of the licence to supply to the appropriate regulatory authority a statement that is certified by the holder, by another person approved by that authority or by a person prescribed by the regulations, as correct and that states all or any of the following:</p> <ul style="list-style-type: none"> <li>(a) the extent to which the conditions of the licence, or any provisions of the regulations applicable to the activity or work authorised, required or controlled by the licence, have or have not been complied with,</li> <li>(b) particulars of any failure to comply with the conditions or any such regulations,</li> <li>(c) the reasons for any failure to comply with the conditions or any such regulations,</li> </ul>

Legislation/ Policy	Relevance
	<p>(d) any action taken, or to be taken, to prevent any recurrence of that failure or to mitigate the effects of that failure,</p> <p>(e) the fee paid or payable in relation to the licence (including the manner of calculation of the fee or other specified aspect of the fee).</p> <p>(4) False or misleading certificates  A person who gives a certificate for the purposes of a condition referred to in this section is guilty of an offence if any of the statements certified is false or misleading in a material respect.  Maximum penalty:  <ul style="list-style-type: none"> <li>• in the case of a corporation—\$250,000, or</li> <li>• in the case of an individual—\$120,000.</li> </ul> </p> <p>(5) Use of information or statements  Any information or statements supplied to the appropriate regulatory authority for the purposes of a condition referred to in this section may be taken into consideration by that authority and used for the purposes of this Act. Without limiting the above, any such information and statements are admissible in evidence in any prosecution of the holder of the licence for any offence against this Act or the regulations, whether or not the information or statements might incriminate that holder.</p> <p>(6) Publication of results of monitoring  The holder of a licence subject to a condition referred to in subsection (1) (a) must, within 14 days of obtaining monitoring data as referred to in that subsection:  (a) if the holder maintains a website that relates to the business or activity the subject of the licence—make any of the monitoring data that relates to pollution, and the licensee's name, publicly and prominently available on that website in accordance with any requirements issued in writing by the EPA, or  (b) if the holder does not maintain such a website—provide a copy of any of the monitoring data that relates to pollution, to any person who requests a copy of the data, at no charge and in accordance with any requirements issued in writing by the EPA.  Maximum penalty:  (a) in the case of a corporation—\$4,400, or  (b) in the case of an individual—\$2,200.</p> <p>(7) False or misleading publication of results  A person who makes available or provides monitoring data in accordance with subsection (6) is guilty of an offence if the monitoring data is false or misleading in a material respect.  Maximum penalty:  (a) in the case of a corporation—\$4,400, or  (b) in the case of an individual—\$2,200.</p>



Legislation/ Policy	Relevance
Part 5.2 116	<p>Leaks, spillages and other escapes</p> <p>(1) If a person wilfully or negligently causes any substance to leak, spill or otherwise escape (whether or not from a container) in a manner that harms or is likely to harm the environment:</p> <p>(a) the person, and</p> <p>(b) if the person is not the owner of the substance, the owner, are each guilty of an offence.</p>
Part 5.4 Division 1 124	<p>Operation of plant (other than domestic plant)</p> <p>The occupier of any premises who operates any plant in or on those premises in such a manner as to cause air pollution from those premises is guilty of an offence if the air pollution so caused, or any part of the air pollution so caused, is caused by the occupier's failure:</p> <p>(a) to maintain the plant in an efficient condition, or</p> <p>(b) to operate the plant in a proper and efficient manner.</p>
	<p>125 Maintenance work on plant (other than domestic plant)</p> <p>The occupier of any premises who carries out maintenance work on any plant in or on those premises in such a manner as to cause air pollution from those premises is guilty of an offence if the air pollution so caused, or any part of the air pollution so caused, is caused by the occupier's failure to carry out that work in a proper and efficient manner.</p>
	<p>126 Dealing with materials</p> <p>(1) The occupier of any premises who deals with materials in or on those premises in such a manner as to cause air pollution from those premises is guilty of an offence if the air pollution so caused, or any part of the air pollution so caused, is caused by the occupier's failure to deal with those materials in a proper and efficient manner.</p> <p>(2) In this section:</p> <p>deal with materials means process, handle, move, store or dispose of the materials.</p>
	<p>127 Proof of causing pollution</p> <p>To prove that air pollution was caused from premises, within the meaning of sections 124–126, it is sufficient to prove that air pollution was caused on the premises, unless the defendant satisfies the court that the air pollution did not cause air pollution outside the premises.</p>

Legislation/ Policy	Relevance
	<p>128 Standards of air impurities not to be exceeded</p> <p>(1) The occupier of any premises must not carry on any activity, or operate any plant, in or on the premises in such a manner as to cause or permit the emission at any point specified in or determined in accordance with the regulations of air impurities in excess of:</p> <p>(a) the standard of concentration and the rate, or</p> <p>(b) the standard of concentration or the rate, prescribed by the regulations in respect of any such activity or any such plant.</p> <p>(2) The occupier of any premises must carry on any activity, or operate any plant, in or on the premises by such practicable means as may be necessary to prevent or minimise air pollution if:</p> <p>(a) in the case of point source emissions-neither a standard of concentration nor a rate has been prescribed for the emissions for the purposes of subsection (1), or</p> <p>(b) the emissions are not point source emissions.</p> <p>(3) A person who contravenes this section is guilty of an offence.</p>
	<p>129 Emission of odours from premises licensed for scheduled activities</p> <p>(1) The occupier of any premises at which scheduled activities are carried on under the authority conferred by a licence must not cause or permit the emission of any offensive odour from the premises to which the licence applies.</p> <p>(2) It is a defence in proceedings against a person for an offence against this section if the person establishes that:</p> <p>(a) the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of the licence directed at minimising the odour, or</p> <p>(b) the only persons affected by the odour were persons engaged in the management or operation of the premises.</p> <p>(3) A person who contravenes this section is guilty of an offence.</p>
	<p>Part 5.7</p> <p>148 Pollution incidents causing or threatening material harm to be notified</p> <p>(1) Kinds of incidents to be notified</p> <p>This Part applies where a pollution incident occurs in the course of an activity so that material harm to the environment is caused or threatened.</p> <p>(2) Duty of person carrying on activity to notify</p> <p>A person carrying on the activity must, immediately after the person becomes aware of the incident, notify each relevant authority of the incident and all relevant information about it.</p> <p>(3) Duty of employee engaged in carrying on activity to notify</p>

Legislation/ Policy	Relevance
	<p>A person engaged as an employee in carrying on an activity must, immediately after the person becomes aware of the incident, notify the employer of the incident and all relevant information about it. If the employer cannot be contacted, the person is required to notify each relevant authority.</p> <p>(3A) Duty of employer to notify Without limiting subsection (2), an employer who is notified of an incident under subsection (3) or who otherwise becomes aware of a pollution incident which is related to an activity of the employer, must, immediately after being notified or otherwise becoming aware of the incident, notify each relevant authority of the incident and all relevant information about it.</p> <p>(4) Duty of occupier of premises to notify The occupier of the premises on which the incident occurs must, immediately after the occupier becomes aware of the incident, notify each relevant authority of the incident and all relevant information about it.</p> <p>(5) Duty on employer and occupier to ensure notification An employer or an occupier of premises must take all reasonable steps to ensure that, if a pollution incident occurs in carrying on the activity of the employer or occurs on the premises, as the case may be, the persons engaged by the employer or occupier will, immediately, notify the employer or occupier of the incident and all relevant information about it.</p> <p>(6) Extension of duty to agents and principals This section extends to a person engaged in carrying on an activity as an agent for another. In that case, a reference in this section to an employee extends to such an agent and a reference to an employer extends to the principal.</p> <p>(8) Meaning of “relevant authority” In this section: relevant authority means any of the following:</p> <ul style="list-style-type: none"> <li>(a) the appropriate regulatory authority,</li> <li>(b) if the EPA is not the appropriate regulatory authority—the EPA,</li> <li>(c) if the EPA is the appropriate regulatory authority—the local authority for the area in which the pollution incident occurs,</li> <li>(d) the Ministry of Health,</li> <li>(e) the WorkCover Authority,</li> <li>(f) Fire and Rescue NSW.</li> </ul>



Legislation/ Policy	Relevance
<b>Protection of Environmental Operations (Clean Air) Regulation 2010</b>	
Schedule 4	Sets maximum in-stack concentration limits on air emissions from activities and plant for a number of substances, including total suspended particles (TSP), nitrogen dioxide (NO <sub>2</sub> ) or nitric oxide (NO) or both as NO <sub>2</sub> equivalent, sulphur dioxide (SO <sub>2</sub> ), sulphuric acid mist (H <sub>2</sub> SO <sub>4</sub> ) or sulphur trioxide (SO <sub>3</sub> ), fluorine (F), chlorine (CL <sub>2</sub> ), hydrogen chloride (HCl), Type 1 substances, Type 2 substances, Cadmium (Cd), Mercury (Hg), dioxins, furans, volatile organic compounds (VOCs), and smoke.
Schedule 2	Sets maximum in-stack concentration limits on air emissions from afterburners, flares and vapour recovery units, including TSP, NO <sub>2</sub> , NO, HCl, Type 1 substances, Type 2 substances, Cd, Hg, dioxins, furans, VOCs, and smoke.
<b>Protection of the Environment Operations (General) Regulation 2009</b>	
Chapter 4 Part 1 s62	AGL are required to submit air emission data annually for Camden Gas Project (CGP) as part of the National Pollutant Inventory.