



**FINAL
COMPLIANCE AUDIT REPORT
QENOS PTY LTD
FRIENDSHIP ROAD
PORT BOTANY NSW 2036**

DECEMBER 2011

This report has been prepared to present the findings of the audit carried out and no responsibility is accepted for its use in any other context, or for any other purpose.

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Published by:

Environment Protection Authority
59–61 Goulburn Street, Sydney
PO Box A290, Sydney South 1232
Phone: (02) 9995 5000 (switchboard)
Phone: 131 555 (environment information and publications requests)
Fax: (02) 9995 5999
TTY users: phone 133 677, then ask for 131 555
Speak and listen users: phone 1300 555 727, then ask for 131 555
Email: info@environment.nsw.gov.au
Website: www.epa.nsw.gov.au

Report pollution and environmental incidents

Environment Line: 131 555 (NSW only) or info@environment.nsw.gov.au
See also www.epa.nsw.gov.au

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EXECUTIVE SUMMARY

An Environment Protection Authority (EPA), was undertaken at the Qenos Pty Ltd storage facility located at Port Botany. The site was audited as part of a state-wide program of audits focusing on the management of major environmental risks associated with the activities undertaken at the site. The audit also focussed on emergency management procedures to be used by the licensee in the event of an incident occurring that is or is likely to impact on the environment or on the local community. The main objectives of the audit were to assess compliance with the requirements of Environment Protection Licence 464 relating to the management of major environmental risks and emergency management planning, and to recommend an action program to be implemented by the licensee to address any non-compliance identified during the audit.

Assessment of compliance was undertaken using information collected during a detailed audit inspection, information supplied by the enterprise, and a review of records and documentation relating to the premises. The procedures and protocols for conducting compliance audits are detailed in the EPA *Compliance Audit Handbook*. The audit inspection was carried out by officers of the EPA on 20 October 2011.

The findings of the audit indicate that the enterprise was complying with the conditions attached to Environment Protection Licence 464 issued under the Protection of the Environment Operations Act 1997.

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1.0 INTRODUCTION

An Environment Protection Authority (EPA), Compliance Audit has been undertaken at the Qenos Pty Ltd storage facility at Port Botany. The site was audited as part of a state-wide program of audits focusing on the management of major environmental risks associated with the activities undertaken at the site. The audit also focussed on emergency management procedures employed by licensee in the event of an incident occurring at the site that is or is likely to impact on the environment or on the local community. The audit inspection was undertaken on 20 October 2011.

The procedures and processes for conducting EPA Compliance Audits are detailed in the *Compliance Audit Handbook*, which can be accessed on the EPA website at <http://www.environment.nsw.gov.au/resources/licensing/cahandbook0613.pdf>.

1.1 Audit Objective

The objectives of the audit were

- to determine whether the enterprise is complying with environment protection licence requirements in relation to the audit scope and criteria; and
- to outline a time frame for follow-up action to address any non-compliances identified during the audit.

1.2 Scope of the Audit

The scope of the audit is limited to the examination of the activities undertaken at Qenos Pty Ltd, in relation to the management of major environmental risks.

The temporal scope adopted for assessment of compliance is:

- The day of the audit inspection for assessing compliance with Operating Conditions, relating to the management of major environmental risks and emergency management planning; and
- 12 months prior to the end of the audit inspection for assessing compliance with any Monitoring, Recording and Special Conditions and Pollution Studies and Reduction Programs relating to the audit scope.

1.3 Audit criteria, evidence and findings

Audit criteria (the requirements against which the auditor compares collected audit evidence) are the Conditions attached to Environment Protection Licence Number 464 issued under the POEO Act to Qenos Pty Ltd, in relation to the management of major environmental risks.

Audit criteria may include any document referred to by the licence, or relevant to a particular condition of the licence.

Audit evidence was collected during discussions with site personnel, examination of documentation provided by the licensee and/or contained on EPA files, together with observations made during the audit inspection.

Findings of non-compliance with licence conditions are summarised in Table 2.1..

1.4 Premises and Process Description

Qenos Pty Ltd operates an ethylene and LPG storage facility at Port Botany. The facility is located within City of Randwick local government area and is surrounded by industrial premises.

The terminal consists of a 4000T ethylene tank and a 7000T each propane and butane tanks. Each tank contains a concrete containment bund around a metal tank structure and nitrous barrier.

Ethylene and LPG is delivered to the terminal via a pipeline from the bulk shipping tanker to the storage tanks. Ethylene is delivered to the site at 30 degrees Celsius and then refrigerated to minus 100 degrees Celsius. Propane and butane is delivered to the site as liquefied gas.

Ethylene and LPG is piped from the premises via a series of above ground and underground pipeline network.

1.5 Statutory Instruments Issued to the Enterprise

The EPA has issued the following statutory instruments to the enterprise:

Licence number 464 issued under the Protection of the Environment Operations Act 1997.

The scheduled activity undertaken at the premises is *Petroleum and fuel production* with a fee scale category of *Petroleum products storage – Sydney Basin >5000 – 100000 kL of active storage capacity*.

The anniversary date for the licence is 18 October.

A copy of Licence 464 can be accessed through the EPA online public register at: <http://www.environment.nsw.gov.au/prpoeoapp/searchregister.aspx>

1.6 Risk Assessment of Non-compliances

The significance of any non-compliances identified during the audit process are categorised. Following risk assessment of non-compliances, an escalating response relative to the seriousness of the non-compliance is determined to ensure the non-compliance is addressed by the enterprise.

The risk assessment of non-compliances involves assessment of the non-compliance against two criteria; the likelihood of environmental harm occurring and the level of environmental impact as a result of the non-compliance. After these assessments have been made, information is transferred into the risk analysis matrix below.

		Likelihood of Environmental Harm Occurring		
		Certain	Likely	Less Likely
Level of Environmental Impact	High	Code Red	Code Red	Code Orange
	Moderate	Code Red	Code Orange	Code Yellow
	Low	Code Orange	Code Yellow	Code Yellow

The assessment of the likelihood of environmental harm occurring and the level of environmental impact allows for the risk assessment of the non-compliance via a colour coding system. A red risk assessment for non-compliance denotes that the non-compliance is of considerable environmental significance and therefore must be dealt with as a matter of priority. An orange risk assessment for non-compliance is still a significant risk of harm to the environment however can be given a lower priority than a red risk assessment. A yellow risk assessment for non-compliance indicates that the non-compliance could receive a lower priority but must be addressed.

There are also a number of licence conditions that do not have a direct environmental significance, but are still important to the integrity of the regulatory system. These conditions relate to administrative, monitoring and reporting requirements. Non-compliance of these conditions is given a blue colour code.

The colour code is used as the basis for deciding on the priority of remedial action required by the licensee and the timeframe within which the non-compliance needs to be addressed. This information is presented in the action program alongside the target/action date for the non-compliance to be addressed.

While the risk assessment of non-compliances is used to prioritise actions to be taken, the EPA considers all non-compliances are important and licensees must ensure that all non-compliances are addressed as soon as possible.

2.0 ASSESSMENT OF COMPLIANCE

2.1 Compliance with Audit Criteria

Compliance was assessed against the licensing requirements of the POEO Act, and the requirements of Environment Protection Licence Number 464 relating to the audit scope and criteria.

Assessment of compliance was undertaken by a detailed site inspection and review of all records and documentation relating to the audit scope and criteria as required by the licence issued to the licensee.

The findings of the audit indicate that the licensee was complying with the conditions of the environment protection licence, relating to the audit scope.

Details of assessment are presented in Table 2.1.

Table 2.1 Assessment of Compliance with Environment Protection Licence No. 464

Statutory Instrument: Environment Protection Licence No. 464			
Condition No.	Compliance/ Risk assessment for non-compliance *	Comment	Action required by licensee
O	Operating Conditions <i>The audit assessment is based upon evidence relating to the period limited to on the day of the audit inspection.</i>		
O1.1 Licensed activities must be carried out in a competent manner	Managing major environmental risks associated with water pollution		
	Yes	<p>Identification of Major Environmental Risks</p> <p>The licensee has identified major environmental risks associated with the pollution of stormwater at the premises. This includes the release of loss of containment from the ethylene tank, fire water to stormwater, discharges from the effluent system, pipeline failure for the cooling water and the release of treatment chemicals from the cooling system as the potential major sources of the risks.</p> <p>The auditors did not identify any other major environmental risks during the site inspection that had not already been identified by the licensee.</p> <p>Use of controls to minimise the Major Environmental Risks Identified</p> <p>The licensee has controls in place to manage the major environmental risks identified such as:</p> <ul style="list-style-type: none"> • Low temperature high content nickel acid tank (4000 tonnes) • Compressor system to re-cool gas vapours and vapours • Tank protected by a full concrete containment bund around the metal tank structure and a nitrous barrier to prevent the ground from freezing • Tanks are purged with nitrogen to reduce moisture content and prevent freezing • Pressure and temperature gauges located on the top of the tank • High pressure alarms are sent via telemetry to the control room which is attended at all times. • No chemicals are added to fire water • Onsite surface water drains to sewer 	

* See explanation of risk assessment of non-compliances codes on p3.

Statutory Instrument: Environment Protection Licence No. 464			
Condition No.	Compliance/ Risk assessment for non-compliance *	Comment	Action required by licensee
		<ul style="list-style-type: none"> • Cathodic protection on all pipelines • Inspections of the premises every 4 hours • Critical safety equipment and preventative maintenance plan • Training of staff in the use and managements of controls and their role in emergency response 	
		<p>Monitoring the effectiveness of the controls used by the licensee to manage the Major Environmental Risks</p> <p>The licensee monitors the effectiveness of the controls used to manage the major environmental risks identified at the site. Monitoring undertaken by the licensee includes the use of:</p> <ul style="list-style-type: none"> • Procedures • Fire fighting pump is tested yearly • Regular alarm testing of gas detection devices • Backup diesel generators in the event of power failure • Onsite maintenance staff to perform monitoring and repairs • Full shutdown on an annual basis for maintenance, where equipment is checked and critical components replaced. • ESD alarm checked daily • Technical Instrument Manager reviews outstanding work orders • Monitoring high level alarms on storage tanks • Drills and simulations to help ensure that site staff respond as required to emergency situations • Control room is attended at all times 	
Managing major environmental risks associated with air pollution			

* See explanation of risk assessment of non-compliances codes on p3.

Statutory Instrument: Environment Protection Licence No. 464			
Condition No.	Compliance/ Risk assessment for non-compliance *	Comment	Action required by licensee
	Yes	<p>Identification of Major Environmental Risks The licensee has identified the major environmental risks associated with the pollution of air at the premises. This includes flaring of gases, loss of containment from LPG storage tanks causing a fire and/or explosions and bulk ship unloading and associated pipelines as the potential major sources of the risks. The auditors did not identify any other major environmental risks during the site inspection that had not already been identified by the licensee.</p>	
		<p>Use of controls to minimise the Major Environmental Risks Identified The licensee uses controls to manage the major environmental risks such as</p> <ul style="list-style-type: none"> • Perimeter gas and smoke detectors to help detect gas leaks • Corrosion inhibitor on flare and corrosion protection for pipelines to help prevent deterioration • Certified tanks which are fitted with vacuum controls, atmospheric relief valves and deluge system • Fill detectors and alarms telemetrically connected to the control room • Vapour recovery units to help prevent vapour emissions from the site • Backup diesel generators in the event of power failure • Prohibition of potential ignition sources onsite • Ship to shore checklist • Automatic Emergency Stop procedures • Training of staff in the use and managements of controls and their role in emergency response • Critical safety equipment and preventative maintenance plan 	
		<p>Monitoring the effectiveness of the controls used by the licensee to manage the Major Environmental Risks The licensee monitors the effectiveness of the controls used to manage the major</p>	

* See explanation of risk assessment of non-compliances codes on p3.

Statutory Instrument: Environment Protection Licence No. 464			
Condition No.	Compliance/ Risk assessment for non-compliance *	Comment	Action required by licensee
		environmental risks at the site. Monitoring undertaken by the licensee includes the use of <ul style="list-style-type: none"> • Maintenance procedures including calibration of all controls and alarm systems • Onsite maintenance staff to perform monitoring and repairs • Emergency power supply (EPS) and back up diesel generator • Full shutdown on an annual basis for maintenance, where equipment is checked and critical components replaced. • ESD alarm checked daily • Testing of the deluge system • Monitoring pressure and temperature of gas storage tanks • Daily inspections of control and monitoring equipment • Drills and emergency simulations to help ensure that site staff respond as required to emergency situations • Control room is attended at all times 	
		Managing Major Environmental Pollution Incidents	
	Yes	Procedures, processes and equipment for managing major environmental pollution incidents The licensee has procedures, processes and equipment in place to manage major environmental incidents. The procedures include; <ul style="list-style-type: none"> • Emergency response procedures for major risks identified that include plant closure • Evacuation of personnel and notification to Senior Licensee management • Notification to relevant agencies such as NSW Fire Services, Health, Workcover NSW and Local Council • Notification to the impacted community • Staff training in emergency response procedures • Assigning roles and responsibilities to key personnel 	

* See explanation of risk assessment of non-compliances codes on p3.

Statutory Instrument: Environment Protection Licence No. 464			
Condition No.	Compliance/ Risk assessment for non-compliance *	Comment	Action required by licensee
		<ul style="list-style-type: none"> Availability of emergency response equipment 	
O3.1	Yes	Emergency Response Plan <i>Documentation systems and procedures within the Emergency Response Plan to deal with all types of incidents and keeping the Plan onsite</i>	
	Yes	<i>Maintaining the Emergency Response Plan</i>	
M	MONITORING CONDITIONS		
	<i>The audit assessment is based upon evidence relating to the period limited to 12 months prior to the end of the audit inspection.</i>		
M4.1, M4.2 & M4.4	Recording of pollution complaints These conditions were not applicable at the time of the audit as there is no evidence to indicate that any pollution complaints were received during the audit scope that required recording. However it is noted that the licensee has mechanisms in place to record all the required details if any complaints are received that relate to pollution from the premises.		
M4.3	It is beyond the scope of the audit to determine whether the licensee retains the records for at least 4 years. The licensee has records of complaints made in the past and the EPA has no reason to believe that those records would not be kept for the required 4 years.		
M5.1	Yes	Operating a telephone line for receiving complaints	
M5.2	Yes	Advertising the telephone complaints line number to the public	
M5.3	This is a deeming clause that determines the applicability of Conditions M5.1-M5.2 and no assessment of compliance is required. It is noted that M5.1 and M5.2 do apply as the licence was been issued for more than 3 months.		
R	REPORTING CONDITIONS		
	<i>The audit assessment is based upon evidence relating to the period limited to 12 months prior to the end of the audit inspection.</i>		
R2.1 & R2.2	Notification of environmental harm These requirements did not apply as no incidents causing or threatening material harm to the environment occurred within the scope of the audit.		

* See explanation of risk assessment of non-compliances codes on p3.

3.0 FURTHER OBSERVATIONS

Further observations are recorded where the audit identified issues of environmental concern which do not strictly relate to the scope of the audit or assessment of compliance. Further observations are considered to be indicators of potential non-compliances or areas where environmental performance may be improved.

The audit team did not identify any further observations during the audit inspection.

4.0 ACTION PROGRAM

Table 4.1 Action Program – Environment Protection Licence No. 464

There were no non-compliances identified as part of the audit.

APPENDIX A
LICENSEES RESPONSE TO DRAFT REPORT



ABN 62 054 196 771
Olefines Plant, Botany

16 - 20 Beauchamp Road, Matraville
Sydney NSW 2036 Australia
Phone Number: 61 2 8336 1357
Fax Number: 61 2 8336 1385
Email: richard.benson@qenos.com
<http://www.qenos.com>

13th December, 2011

Christopher Kelly
A/Manager Compliance and Assurance Section
Environment Protection and Regulation
Office of Environment and Heritage
PO Box A290
Sydney South
NSW 1232

Dear Mr Kelly

Re: Draft Compliance Audit Report – High Risk Facilities Audit
Qenos Pty Ltd (Licence Number 464)

Thank you for the opportunity to comment on the draft report of the audit conducted on the 20th of October 2011. We note that no non-compliances against Licence conditions or any observations were recorded. Qenos will continue to operate to the highest standards and meet all Licence conditons.

Yours sincerely

Richard Benson

Environment Advisor
Qenos – Botany Operations

APPENDIX B

**LETTER COVERING LICENSEES RESPONSE TO DRAFT COMPLIANCE AUDIT
REPORT**



ENVIRONMENT PROTECTION AUTHORITY

Your reference:
Our reference: FIL10/9663
Contact: Nicole Wilmot 02 9995 5427

Mr Richard Benson
Environment Advisor
Qenos Pty Ltd
16-20 Beauchamp Road
MATRAVILLE NSW 2036

Dear Mr Benson

**Re: Final Compliance Audit Report – High Risk Facilities Audit
Qenos Pty Ltd (Licence Number 464)**

The Environment Protection Authority (EPA) is pleased to present you with a copy of the Final Compliance Audit Report for Qenos Pty Ltd located at Port Botany. The compliance audit was undertaken as part of the EPA's program of compliance audits across the state, focussing on industries that pose a high risk of environmental harm.

EPA acknowledges the receipt of your letter received on 13 December 2011 and a copy of this letter has been attached to the Appendix of the final report. A copy of this report will be available in the EPA Library for public review.

I would like to take this opportunity to thank you and your staff for the co-operation during the audit. If you require further information or clarification on any matters regarding this audit, please do not hesitate to Dana Alderson on 02 9995 6851.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Christopher Kelly', with the date '14/12/2011' written below it.

CHRISTOPHER KELLY
A/Manager Compliance and Assurance Section
Environment Protection Authority

Enclosure: Final Audit Report Qenos Pty Ltd