



## **2024 ANNUAL REPORT**


### **FOR THE QENOS ALKATUFF PLANT**

#### **BOTANY**

**DA2181 & DA35/97**



## Annual Review Title Block

<b>Name of Operation</b>	<b>Alkatuff Plant</b>
<b>Name of Operator</b>	<b>Qenos Pty Ltd (Subject to Deed of Company Arrangement)</b>
ABN	62 054 196 771
Company Address	Botany Industrial Park 16-20 Beauchamp Rd, Matraville NSW 2036 Australia
<b>Development Consent #</b>	<b>DA2181 Original plant development &amp; DA35/97 Plant capacity uprate development</b>
<b>EPA Licence #</b>	<b>10000</b>
Annual Review start date	1 <sup>st</sup> August 2023
<b>Annual Review end date</b>	<b>31<sup>st</sup> July 2024</b>
<p>I, Jason Ireland, certify that this Annual Report is a true and accurate record of the compliance status of Qenos Alkatuff plant for the period 1<sup>st</sup> August 2023 to 31<sup>st</sup> July 2024 and that I am authorised to make this statement on behalf of Qenos Pty Ltd.</p> <p>Notes:</p> <p>a) The Annual Review is an environmental audit for the purpose of section 122B(2) of the Environmental Planning and Assessment Act 1979 Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000; and</p> <p>b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (intention to defraud by false or misleading statement – maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (false or misleading applications/information/documents – maximum penalty 2 years' imprisonment or \$22,000 or both).</p>	
<b>Name of Authorised Reporting Officer</b>	<b>Jason Ireland</b>
Title of Authorised Reporting Officer	Joint and Several Deed Administrator
Signature of Authorised Reporting Officer	
<b>Date</b>	<b>9 October 2024</b>

## Executive Summary

The Qenos Alkatuff plant commenced operation in 1992 with a nameplate manufacturing capacity of 86,000 tonnes of linear low-density polyethylene under the development consent DA2181. In November 1997, a development consent DA35/97, was granted for the modification of plant to raise the plant manufacturing capacity to 125,000 tonnes of polyethylene. The upgrade development consent included a modification to the development approved on 6<sup>th</sup> March 2000 to allow the manufacture of high-density polyethylene. In August 2012, a modification to the existing development consents was granted, under Section 75W of the Environmental Planning and Assessment Act 1979, for the construction and operation of a hydrogen trailer unloading bay. This modification altered the annual report reporting period to 1<sup>st</sup> August to 31<sup>st</sup> July inclusive. The 2012/2013 annual report covered the period of transition. The 2014 annual report represented the first 12-month period under the new reporting period. This 2024 annual report is the eleventh annual report on this 12-month reporting period. **It is anticipated this will be the last annual report given the announced business closure.**

In response to the 2015 Annual Report submission the Department of Planning and Environment Compliance Team requested additional information in all future Annual Reports. These additional requirements were addressed in part. In response to the 2018 Annual Report submission the Compliance Team made a further request for additional information to be provided in all future Annual Reports. The 2019 Report addressed these additional requests and were generally accepted by the Department Compliance Team. **This 2024 Report maintains this format and content.**

All conditions of consent have been addressed. It should be noted that many Consent Conditions are controlled under Environment Protection Licence (EPL) 10000, issued by the NSW EPA, and compliance is reported accordingly to EPA. There were no smoking flare incidents (EPL Exceedances) in the reporting period.

**Importantly, the Alkatuff plant has been shut down since the failure of the upstream ethylene plant (Olefines) cooling tower in February 2023. The Qenos business went into Voluntary Administration on 17<sup>th</sup> April 2024 and the decision was made not to restart the Botany Qenos plants despite the rectification work undertaken to rebuild the cooling tower. The Qenos business continues to operate under a Deed of Company Arrangement in order to shut down and make-safe the facilities which will allow for potential future redevelopment of the site by others (outside scope of this report). The eighth triennial hazard audit was deferred to 2024 due to the extended outage. It is envisaged that a separate request will be made to the department to cancel this requirement in light of the announced business closure.**

There were only minor traffic movements associated with the reprocessing of 419 tonnes of product stored offsite, otherwise there was no other truck movements given the plant remained in shut down with nil production for the duration of the reporting period.

## Introduction

The Qenos Alkatuff plant has two primary sets of Consent Conditions relating to:

- Original plant development DA2181 (determined 5<sup>th</sup> September 1989); and
- Plant upgrade development DA35/97 (determined 20<sup>th</sup> November 1997)

In addition, modifications to the approved development consents have altered and added certain consent conditions. These modifications are referred to as:

- DA35/97 MOD1 (modified 6<sup>th</sup> March 2000) – alteration of the scope of works and production of high-density polyethylene associated with the plant upgrade
- DA2181 MOD1 & DA35/97 MOD2 (modified 28<sup>th</sup> August 2012) – installation and operation of the hydrogen trailer unloading bay (hydrogen is a raw material to the process, an alternative supplier was required to be found requiring the construction of on-site unloading facilities)

In the 2002 Annual Report a reporting structure for both sets of Consent Conditions was submitted to the Department. In a letter referencing the 2002 Annual Report<sup>1</sup>, the Department indicated support for the approach taken and recommended that future annual reports for the Alkatuff Plant apply this reporting structure. Following the 2015 and 2018 Annual Report submissions the Department Compliance Team requested additional information be provided including a change in report format<sup>2</sup>. **The 2024 report follows the 2019 report content and format which fully satisfied the information requirements.**

Report structure is as follows:

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<sup>1</sup> Ref: R96/00241 letter dated 7/4/03 Scott Jeffries Senior Environmental Planning Officer

<sup>2</sup> Letter dated 16/10/18 Chris Mathieson

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The principal reporting method for the report remains, as in previous years, by exception only.

The reporting period of the original annual reports was 1<sup>st</sup> November to 31<sup>st</sup> October inclusive based on the anniversary of the upgrade DA35/97 consent (11<sup>th</sup> November 1997). The latest modification to the development consent was granted on 28<sup>th</sup> August 2012 requiring a revised annual **reporting period of 1<sup>st</sup> August to 31<sup>st</sup> July**.

## **Overview of Operations**

### ***Project Background***

The Alkatuff plant is not currently operational. The following description is of the plant when it was in operation.

The Alkatuff plant commenced operations in August 1992 under DA2181. The Alkatuff Plant employs Unipol™ Low Pressure, Fluidised Bed Technology. The Unipol™ process is licensed from Univation (formerly known, at the time of the original development consent, as Union Carbide Corporation (UCC)). The Unipol™ process, compared to conventional polyethylene plants, is a 'low pressure' process characterised by relatively small inventories of gaseous hydrocarbons and very low inventories of liquid hydrocarbons. There are over 100 reactor lines in 25 countries producing polyethylene or under construction using the Unipol™ Process.

### ***Process Description***

The Alkatuff plant is not currently operational. The following description is of the plant when it was in operation.

The Alkatuff plant manufactures polyethylene products known as Linear Low-Density polyethylene (LLDPE) and High-Density polyethylene (HDPE), using a fluidised bed reaction system. The polymerisation reaction takes place in a fluidised bed reactor into which the ethylene (supplied by pipeline from Qenos upstream ethane cracker plant "Olefines"), hydrogen, isohexane (an induced condensing agent (ICA) added to assist with the removal of the heat of polymerisation), catalyst activator and catalyst are injected. The reaction takes place at a moderate temperature (around 100°C) and pressure (up to 2400kPag). A recycle gas flow is used to cool the reactor and is maintained by a single stage centrifugal recycle gas compressor, provided with an elaborate labyrinth seal to protect against recycle gas leakage. The overall reaction and cycle gas system pressure is modulated by the control of the incoming ethylene feed rate. The reaction rate is controlled by catalyst addition rate.

Polyethylene resin is produced. This is purged with nitrogen to remove residual hydrocarbons (minimising volatile hydrocarbon emissions), extruded and cut up to form granules which are stored and loaded into road tankers for bulk delivery to customers. The plant is equipped with a ground flare for continuous vents and an elevated flare for larger event-based loads (e.g. rapid depressurisation of the reactor).

### ***Facility Location***

The Alkatuff plant is located on the Botany Industrial Park (BIP) site in the suburb of Banksmeadow in the Bayside Council. The relative position of the BIP in relation to surrounding land uses is provided below in Figure 1 with Figure 2 providing a zoomed in view of the Alkatuff plant position in relation to the BIP.

Note 1: Source of Land Use Maps: Bayside Council website  
[Bayside Council IntraMaps](#)

Note 2: The BIP falls under the Three Port SEPP planning instrument.

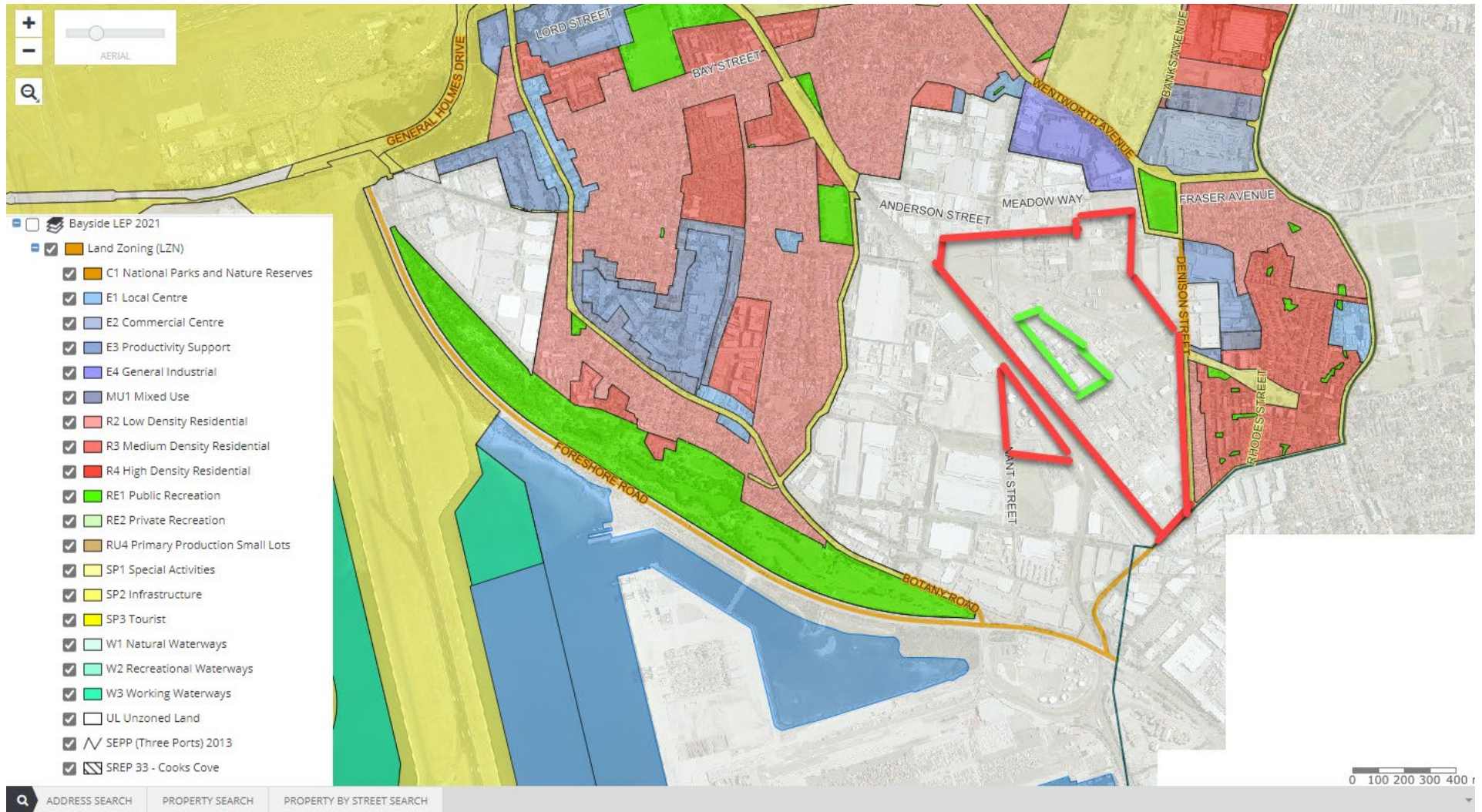


Figure 1: Botany Industrial Park site (red outline) with surrounding land uses

Note: Alkatuff plant shown with green outline

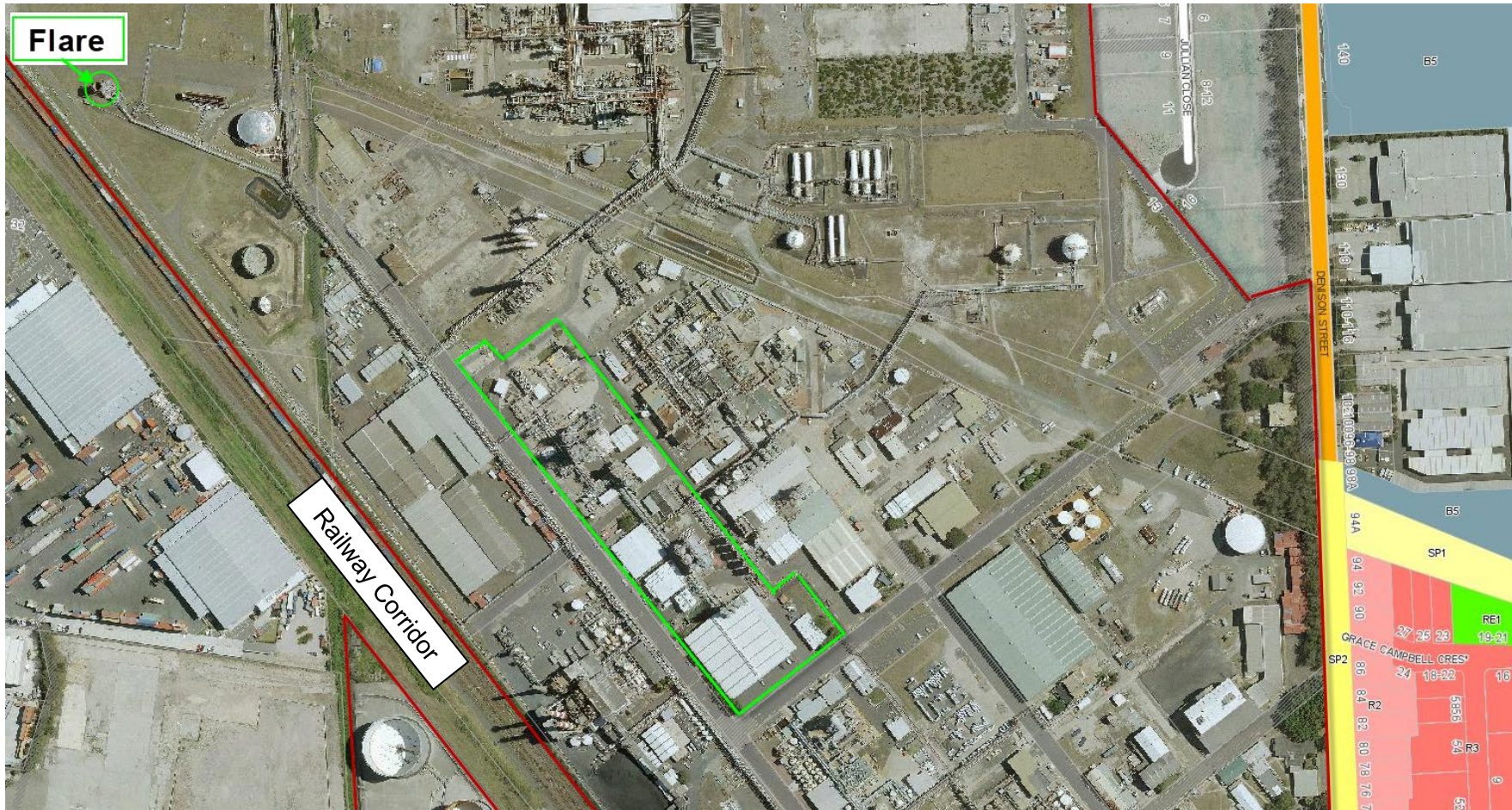


Figure 2: Alkatuff plant (green outline) in relation to the BIP (zoomed in)

**Operational Disturbance Footprint and Offset Areas**

The Alkatuff plant is well away from residential areas (>500m to the east), the closest industrial neighbour is the goods line railway corridor (~150m to the west). The Alkatuff flare is located in a remote area of the site away from process plants and other infrastructure. Nearest residential neighbourhood is ~430m to the west of the flare. The elevated flare tips are ~23m above ground level.



## **Environmental Management Arrangements**

Qenos manages its environmental obligations as part of its integrated Safety Health and Environment Management System (named *FORUS*). *FORUS* has 22 SHE Operating Practices (SHEOPs) with a dedicated SHEOP for the protection of the environment (*SHEOP 6.5 Environment & Sustainability*). Responsibility for Safety Health and Environmental (SHE) performance is addressed through:

- Line Management - starts with the Operations Manager who has final accountability for the performance outcomes of the operating plant through to plant managers, engineers, maintenance, and operations personnel; as well as
- *FORUS* Management Oversight – includes a Sponsor, Administrator, and plant Link person for each SHEOP.

The table below lists the key personnel responsible for monitoring and managing environmental performance and compliance.

<b>Title</b>	<b>Incumbent</b>	<b>Notes</b>
Polythene Operations Manager	Brian O'Connell	Line accountability for SHE performance of the Alkatuff and Alkathene polymer plants
Alkatuff Production Manager	Garry MacGregor	Manages day to day operations and SHE performance
Qenos Environment Advisor & SHEOP 6.5 Sponsor / Administrator	Richard Benson	Manages EPA Licence for Qenos and provides technical advice to Qenos operations on environmental performance and compliance matters

## Description of Operations for the Reporting Period

### ***Actions arising from Previous Annual Report***

The table below provides a summary of Actions arising from Previous Report and their status.

<b>Action Arising</b>	<b>Status</b>
Next Triennial Hazard Audit	Deferred to 2024 calendar year <i>A request will be made to the department to cancel the Hazard Audit requirement given the business closure announcement</i>

### ***Production***

The Alkatuff plant produced **NIL** polyethylene in the reporting period but did reprocess 419 tonnes of linear low density grade resin that was held offsite as part of its business closure plans. Refer to the following appendices to **Appendix A: Production Summary** for production details. Production is significantly lower than nameplate capacity (125kt) due to loss of feedstock associated with the upstream Olefines plant cooling tower failure and the subsequent business closure announcement, following the appointment of Voluntary Administrators on 17 April 2024.

### ***Compliance to Consent Conditions***

All Consent Conditions have been met. Refer to **Appendix B: Conditions of Consent Compliance Table** for details.

### ***Environmental Performance***

This analysis focusses on the environmental footprint and impact on community of the plant for the areas as identified in the original Environmental Impact Statement (EIS) and subsequent Statements of Environmental Effects (SEE) as well as any ongoing requirements identified in the Conditions of Consent. These areas include:

- Storm Water
- Trade Waste/Effluent
- Air Emissions
- Boundary Noise
- Waste Management
- Traffic/Truck Movements
- Public Amenity

Refer to **Appendix C: Environmental Performance** for details of this environmental assessment.

Note: In line with EPA legislated requirements *Protection of the Environment Operations (General) Amendment (PFAS Firefighting Foam) Regulation 2021* the Alkatuff firefighting foam stocks *have been changed over* to a fluorine free alternative supplied by Chubb: Respondol 3-3 ATF.

### ***Record of Complaints***

The table below provides a summary of all Complaints received concerning this development in the reporting period.

<b>Date</b>	<b>Nature of Complaint</b>	<b>Status/Resolution</b>
-	Nil Complaints Received	N/A

### **Exceedances of Environmental Protection Licence**

Qenos submits a detailed Annual Return as required under its Environment Protection Licence (EPL 10000) to NSW EPA for its Botany operations which includes this development. It is not the intention of this annual report to duplicate the detail that is already provided in that report. The table below provides a summary of all EPL Exceedances associated with this development.

<b>Date</b>	<b>Nature of EPL Exceedance</b>	<b>Status/Resolution</b>
-	Nil	N/A

As reported in the 2023 Annual Report, the rectification works were completed by the revised Pollution Reduction Program (PRP) due date of 30-Dec-2022. The evaluation period, because of the extended plant shutdown, was extended by EPL variation (20/02/24) to 30/10/24. Due to the subsequent business closure announcement, the NSW EPA have issued a draft variation to the EPL to remove the Alkatuff flare PRP.

### **Environmental Monitoring Data Over Life of Project**

The Consent Conditions only call for ongoing environmental monitoring of traffic volumes. Given there was no production in the reporting period there were negligible number of traffic movements associated with the operation of the Alkatuff plant, well under EIS traffic movement figures associated with the upgrade approval. The historical details of traffic volumes are provided in **Appendix D: Record of Traffic Movements**.

Monitoring of noise, fugitive emissions, emissions to atmosphere (NOx) and discharges to stormwater are managed under the broader Qenos EPL (which includes all of the Qenos operating plants on the BIP not just the Alkatuff development). The discharge of process effluent is a more complex five party Trade Waste Agreement (TWA) involving the four BIP operating companies Ixom, Indorama, Orica, and Qenos with Sydney Water. The Alkatuff plant, which is the subject of this Annual Report, is a relatively small contributor to the Qenos EPL and the BIP TWA.

## Appendix A: Production Summary

<b>Material</b>	<b>Approved Limit (specify source)</b>	<b>Previous Reporting Period (actual)</b>	<b>This Reporting Period (actual)</b>	<b>Next Reporting Period (forecast)</b>
Polyethylene	125,000 tonnes (DA35/97)	63,449 tonnes	0 tonnes (419 tonnes reprocessed)	0 tonnes Business closure announced

## Appendix B: Conditions of Consent Compliance Table

### Development Application DA2181

The status of compliance to the Consent Conditions relating to the original development for the construction and operation of the Alkatuff plant are listed in Table 1. Additions or alterations to consent conditions associated with DA2181 MOD1 are designated with superscript “MOD1+” (new condition) or “MOD1~” (altered condition).

Unique ID Consent Condition #	Compliance Requirement	Development Phase	Monitoring Methodology	Evidence and Comments
1	Pre-Construction Studies a) Organisational and safety construction procedures. b) HAZOP study. c) Hazard analysis and risk assessment of detail design. d) Fire safety study; and e) Transport management plan; and f) Local council consultation on transport arrangements	Pre-Construction	N/A	Condition satisfied; consent condition does not specify any ongoing requirements
2 <sup>MOD1~</sup>	Pre-Commissioning Studies a) Emergency response plan. b) Comprehensive safety monitoring program; and c) Comprehensive organisational and safety commissioning procedures	Pre-Commissioning	N/A	Condition satisfied; consent condition does not specify any ongoing requirements.
3 <sup>MOD1~</sup>	Triennial Hazard Audit in accordance with HIPAP 5 <i>Hazard Audit Guidelines</i>	Post Commissioning	Scheduling of Triennial hazard audits as well as the stewardship of audit recommendations are managed under Qenos SMS element <i>SHEOP6.6 Regulatory Compliance</i> .	Refer to Upgrade DA35/97 Condition of Consent #6 Hazard Audit.

Unique ID Consent Condition #	Compliance Requirement	Development Phase	Monitoring Methodology	Evidence and Comments
4	Site Studies (all) Update the hazard analysis and risk assessment for the entire site as well as update the site fire safety study	Pre-Startup	N/A	Condition satisfied; consent condition does not specify any ongoing requirements.
5	C3 Splitter impact assessment on hexene tanker unloading bay	Pre-Construction	N/A	Condition satisfied; consent condition does not specify any ongoing requirements.
6	Compliance	Pre-Startup	N/A	Compliance Report was submitted and accepted prior to plant commencing operation. Consent condition does not specify any ongoing requirements.
7	Annual Report on Implementation and Effectiveness of Conditions	Ongoing	Annual Report submission to DoP&E and Bayside Council	This Annual Report is submitted to comply with this consent condition. It is envisaged this will be the last Annual Report given the cessation of production and business closure announcement.
8	Development to be conducted in accordance with EIS and supplementary reports	Pre-Startup	N/A	Development was built, commissioned, and operated in accordance with the EIS and supplementary reports.
9	EPA (formerly SPCC) Approvals & Licences	Pre-Startup	Managed under EPA Licence 10000	Licence was obtained and plant continues to operate under a site wide EPA Licence.
10	Regulatory Compliance – generalised requirement to satisfy all relevant regulatory requirements	Ongoing	Managed under Qenos SMS element <i>SHEOP 6.6 Regulatory Compliance</i>	Development needs to satisfy a number of statutory regulations including, but not limited to, Work Health and Safety Regulations (including Chapter 9 Major Hazard

Unique ID Consent Condition #	Compliance Requirement	Development Phase	Monitoring Methodology	Evidence and Comments
				Facilities). It is envisaged the Qenos MHF Licence (Facility Reference No: 20-26) will be cancelled no later than end 1Q2025 given the cessation of production and business closure announcement.
11	Statutory approval of stormwater collection & disposal	Pre-Startup	Managed under EPA Licence 10000	Condition satisfied; ongoing management is under EPA Licence. It is envisaged the site wide BIP Environmental Protection Licence will be modified to remove Alkatuff environmental impacts given the cessation of production and business closure announcement.
12	Liquid Waste	Pre-Startup	N/A	Condition satisfied – refer to Upgrade DA35/97 Condition of Consent #10 Waste Management Strategy.
13	Solid Waste	Pre-Startup	N/A	Condition satisfied – refer to Upgrade DA35/97 Condition of Consent #10 Waste Management Strategy.
14	Particulate Management Plan	Pre-Startup	Managed by operational team housekeeping audits. Polyethylene spillages or losses of containment are cleaned up immediately. In event of polyethylene dust emissions bag house filters would be checked and replaced. Resin and pellet handling areas are inside plant first flush stormwater	Condition satisfied; consent condition does not specify any ongoing requirements. Note: A detailed study was completed following plant commissioning which confirmed the plant design met the particulate emissions standards set out in the original plant EIS.

Unique ID Consent Condition #	Compliance Requirement	Development Phase	Monitoring Methodology	Evidence and Comments
			catchment to ensure they do not leave site.	
15	Recycling Study	12months of Construction Commencement	N/A	Condition satisfied; consent condition does not specify any ongoing requirements.
16 <sup>MOD1~</sup>	Annual Report	Ongoing	Annual submission managed under Qenos SMS element <i>SHEOP 6.6 Regulatory Compliance</i>	Condition satisfied by this report – refer to Upgrade DA35/97 Condition of Consent #21 Annual Report. It is envisaged this will be the last Annual Report given the cessation of production and business closure announcement.
17	Public Amenity - premises and operations to not adversely affect neighbourhood amenity	Ongoing	Refer to EPA reporting guidelines	Condition satisfied – managed under EPA EPL 10000.
18	Acoustical engineer's report into acoustical controls to be employed in plant design	Pre-Commissioning	Noise is monitored for the whole site at the site boundary to detect changes or deterioration of acoustical controls	Condition satisfied; consent condition does not specify any ongoing requirements.
19	Air quality & pollution control engineer's report into pollution controls to be employed in plant design	Pre-Commissioning	EPL Annual Return includes Load Based Limits (LBL) for NOx, Volatile Organic Compounds, Particulates (from combustion) and Benzene (Olefines plant). LBL does not involve ongoing monitoring requirement with most quantities determined by an agreed load calculation protocol.	Condition satisfied; consent condition does not specify any ongoing requirements. Note: One exception to LBL determination involving measurement is the Leak Detection and Repair (LDAR) program. However, LDAR for fugitive emissions is a minor contributor to the total LBL emissions.
20	Vehicle loading & unloading wholly within premises	Ongoing	Site is large and readily satisfies this requirement – no specific monitoring program required	Condition satisfied



Unique ID Consent Condition #	Compliance Requirement	Development Phase	Monitoring Methodology	Evidence and Comments
21	Civil Aviation Authority approval of structures above 15.2m	Pre-Construction	Applies to new or modified structures above 15.2m, managed as part of SMS element <i>SHEOP 7.1 Management of Change</i> process	Condition satisfied, all approvals were applied for and granted
22	Landscaping plan	Pre- Building Application Determination	Landscaping was completed to the agreed plan at the time. Maintenance of landscaping is part of BIP grounds maintenance contract and the performance metrics contained therein.	Condition satisfied with ongoing maintenance of landscaping.
23	Landscaping Maintenance Bond	Pre- BA Determination	N/A	Condition satisfied, bond was lodged, period of four years expired.
24	Landscaping masonry retaining edges	Pre-Commissioning	N/A	Condition satisfied
25	Containment of plant spillage	Pre-Construction	N/A	Condition satisfied
26	General statement regarding the obligation to obtain any other approvals necessary	Ongoing	Managed under Qenos SMS element <i>SHEOP 6.6 Regulatory Compliance</i>	Condition satisfied
27 <sup>MOD1+</sup>	Staged and Combined Submission of Plans	Ongoing	Managed under Qenos SMS element <i>SHEOP 6.6 Regulatory Compliance</i>	Condition satisfied

Table 1: DA2181 Conditions of Consent Compliance Table

### Development Application DA35/97

The upgrade Conditions of Consent were issued on 25/11/97. The status of compliance to the Consent Conditions, relating to the upgraded Alkatuff plant, is listed in Table 2. Additions or alterations to consent conditions associated with DA35/97 MOD1 (granted 6/3/2000) are designated with superscript “MOD1+” (new condition) or “MOD1~” (altered condition). Additions or alterations to consent conditions associated with DA35/97 MOD2 (granted 28/8/2012) are designated with superscript “MOD2+” (new condition) or “MOD2~” (altered condition).

Unique ID Consent Condition #	Compliance Requirement	Development Phase	Monitoring Methodology	Evidence and Comments
1 <sup>MOD1~MOD2</sup> ~	Development to be conducted in accordance with EIS and supplementary environmental statements associated with consent modifications	Pre-Startup	N/A	Development was built, commissioned, and operated in accordance with the EIS and supplementary environmental statements.
2 <sup>MOD2~</sup>	Pre-Construction Studies a) Fire Safety Study. b) HAZOP Study. c) Final Hazard Analysis; and d) Construction Safety Study	Pre-Construction	N/A	Condition satisfied; consent condition does not specify any ongoing requirements
3	Pre-Commissioning Studies a) Emergency Response Plan; and b) Safety Management System	Pre-Commissioning	SafeWork NSW WHS Regulations (Major Hazard Facilities) provide ongoing oversight of the ERP and SMS	Condition satisfied; consent condition does not specify any ongoing requirements
4 <sup>MOD2~</sup>	Compliance Report – report on conditions 2, 3 & 7	Pre-Start Up	N/A	Condition satisfied
5	Incident Report – report any actual or potential incident with significant offsite impact on people or biophysical environment	Ongoing	Qenos External Reporting procedures managed under <i>SHEOP 9.1 Incident Reporting Analysis and Follow Up</i>	There were no incidents or potential incidents with actual or potential significant off-site impacts on people or biophysical environment during the reporting period for the Alkatuff plant. <i>Note: At the time of writing this annual report the plant has been shut down for over a year and all WH&amp;S Regulation Schedule 15 (MHF) materials have been removed from site. The removal</i>

Unique ID Consent Condition #	Compliance Requirement	Development Phase	Monitoring Methodology	Evidence and Comments
				<i>scheduled materials eliminates the potential for any future hazardous or offensive offsite incident.</i>
6 <sup>MOD2~</sup>	Triennial Hazard Audit in accordance with HIPAP 5 <i>Hazard Audit Guidelines</i>	Ongoing	Scheduling of Triennial hazard audits as well as the stewardship of audit recommendations are managed under Qenos SMS element <i>SHEOP6.6 Regulatory Compliance</i> .	2020 Hazard Audit completed with four recommendations. All Hazard Audit recommendations were reported as completed in the 2023 Annual Report. Next Hazard Audit has been deferred to 2024 due to the extended site outage. With the announced business closure, a request will be lodged with the department to cancel this requirement.
7	Further Requirements arising from Conditions 2 to 6	Ongoing	Managed under Qenos SMS element <i>SHEOP 6.6 Regulatory Compliance</i>	There are no outstanding follow-up items.
8 <sup>MOD2+</sup>	Traffic Management Plan & Vehicle Restrictions (hydrogen trailer maximum length)	Pre-Commissioning	Managed under Qenos SMS element <i>SHEOP 8.1a Third Party Services: Distribution</i>	Condition satisfied. Traffic Management Plan identifies preferred routes for heavy vehicles and contracts with distribution service providers enforce use of these routes. Modified condition included a hydrogen trailer length restriction; hydrogen trailer bay currently mothballed.
9	Environmental Management Plan	Pre-Construction	N/A	Condition satisfied. There is a standing procedure across the BIP to manage legacy contamination and disposal of spoil which requires sign off by the BIP environmental officer.
10 <sup>MOD2+</sup>	Waste Management Strategy	Pre-Commissioning	All wastes are managed in accordance with EPA guidelines and as outlined in the WMS submitted.	There are no outstanding waste issues.

Unique ID Consent Condition #	Compliance Requirement	Development Phase	Monitoring Methodology	Evidence and Comments
11	Sydney Airports Corporation Approvals for elevated structures and construction cranes	Pre-Construction	Managed under Qenos SMS element <i>SHEOP 7.1 Management of Change</i> process	Condition satisfied, all approvals were applied for and granted
12	Impact on Amenity of Neighbourhood	Ongoing	Condition managed by EPL 10000.	Qenos submits an Annual Return to EPA titled "Compliance Certificate for Licence 10000 for Period Ending 15 <sup>th</sup> October".
13	Emission of Odours	Ongoing	Condition managed by EPL 10000.	This documents all non-compliances and complaints for the Qenos plants operating on the BIP.
14	Storage of Materials to be on site	Ongoing	N/A	Site is large, condition is readily complied with.
15	Location of Work to be carried out on site	Ongoing	N/A	Site is large, condition is readily complied with.
16	Colour Scheme	Pre-Construction	N/A	Condition satisfied
17	Noise emissions (not to exceed residential boundary limits)	Ongoing	Condition managed by EPL 10000.	Condition satisfied. EPL Annual Return includes details of monthly noise monitoring at the BIP site boundary. Annual compliance has been achieved.
18	Noise emissions (not to exceed industrial boundary limits)	Ongoing	Condition managed by EPL 10000.	Condition satisfied. EPL Annual Return includes details of monthly noise monitoring at the BIP site boundary. Annual compliance has been achieved.
19 <sup>MOD1-</sup>	Noise emissions (noise attenuation measures)	Ongoing	Noise attenuation measures are identified and required to be maintained or if modified done so under Qenos SMS element <i>SHEOP 7.1 Management of Change</i>	Condition satisfied

Unique ID Consent Condition #	Compliance Requirement	Development Phase	Monitoring Methodology	Evidence and Comments
20 <sup>MOD2+</sup>	Construction Restrictions to limit vibration effects (“augured piling”)	Construction	N/A	Condition satisfied
21 <sup>MOD2-</sup>	Annual Report of the implementation and effectiveness of consent conditions and record of traffic movements	Ongoing	Annual submission managed under Qenos SMS element <i>SHEOP 6.6 Regulatory Compliance</i>	This report is submitted to comply with this consent condition. Refer to <b>Appendix D: Record of Traffic Movements.</b>
21A <sup>MOD2+</sup>	Construction Environmental Management Plan	Pre-Construction	N/A	Condition satisfied
21B <sup>MOD2+</sup>	Staged and Combined Submission of Plans	Ongoing	Managed under Qenos SMS element <i>SHEOP 6.6 Regulatory Compliance</i>	Condition satisfied
22	Disputes in Conditions	Ongoing	Managed under Qenos SMS element <i>SHEOP 6.6 Regulatory Compliance</i>	Qenos does not have, nor is aware of, any disputes in the conditions.

Table 2: DA35/97 Conditions of Consent Compliance Table

## Appendix C: Environmental Performance

Environmental Aspect	Approval Criteria; Requirements in the Management Plan; Relevant predictions in the EA	Summary of Monitoring Results in the Previous Reporting Period	Summary of Monitoring Results in this Reporting Period	Improvement Measures to be Implemented
Stormwater	Storm water has been managed in accordance with environmental regulations. The Conditions of Consent provide a general condition not to affect the amenity of the neighbourhood as well as management of polyethylene particulates and floss.	There were no complaints received nor reports required to be made, during the previous reporting period, to EPA relating to the storm water operations of this development.	There have been no complaints received nor reports required to be made, during the reporting period, to EPA relating to the storm water operations of this development.	Storm water management ensures that potential spills of solid polymer pellets, particle fines, liquid hydrocarbons or oil are captured by a first flush storm water pit with weirs and separators. There are currently no improvement items identified nor plans in place.
Plant Effluent (Trade Waste Agreement)	Plant effluent has been managed in accordance with the Trade Waste Agreement with Sydney Water. Effluent leaves the site via the 14 <sup>th</sup> Avenue Trade Waste discharge point where it is received by the Malabar Sewerage Treatment Works. There are no additional, ongoing, effluent/trade waste management requirements under the Conditions of Consent.	Effluent is sent to a diversion basin in the event that effluent is outside Trade Waste licence limits. There were no complaints received nor reports required to be made, during the previous reporting period, to Sydney Water relating to the effluent operations from this development.	Effluent is sent to a diversion basin in the event that effluent is outside Trade Waste licence limits. There have been no complaints received nor reports required to be made, during the reporting period, to Sydney Water relating to the effluent operations from this development.	Potential effluent risk exposures are primarily large hydrocarbon and oil spills to drain. The plant is well protected by a collection pit and effluent treatment system including oil separation. The 14 <sup>th</sup> Ave Trade Waste discharge point receives effluent flows from a number of plants. The nature and volume of effluent from the Alkatuff plant is small relative to other plants. The total effluent stream is continuously monitored and alarmed. There are currently no improvement items identified nor plans in place.

Environmental Aspect	Approval Criteria; Requirements in the Management Plan; Relevant predictions in the EA	Summary of Monitoring Results in the Previous Reporting Period	Summary of Monitoring Results in this Reporting Period	Improvement Measures to be Implemented
Air Emissions	Emissions to air have been managed in accordance with EPA licence and environmental regulations. The Conditions of Consent provide a general condition not to affect the amenity of the neighbourhood as well as emissions of odour or odorous air impurities.	Reported emissions levels associated with this development were comparable with previous years. There have been no complaints received nor reports required to be made, during the previous reporting period, to EPA relating to the air emissions from this development. There were no LBL exceedances for this development.	There were no noteworthy changes in reported emissions levels associated with this development as compared with previous years. There have been no complaints received nor reports required to be made, during the reporting period, to EPA relating to the air emissions from this development. There were no LBL exceedances for this development. There was a smoking flare event on the 26/7/19 which exceeded the EPL.	Emissions to air, for this development, are primarily concerned with fugitive emissions (e.g. tank breathing, mechanical seals, and valve glands); release of unburnt hydrocarbons; products of combustion (NOx, soot, and fine particulates). Emissions are monitored and calculated as part of the EPA load base licensing regime. The PRP associated with the Alkatuff flare performance has been removed from the licence.
Noise Level at the Boundary	Noise emissions have been managed in accordance with EPA licence and environmental regulations. The Conditions of Consent provide a general condition not to affect the amenity of the neighbourhood as well as specific noise limits at the boundary. The Consent	Noise monitoring was conducted monthly for the Botany Industrial Park (BIP) site. There were no noteworthy changes in reported noise emission levels compared with previous years associated with this development. There have been no complaints received nor reports required to be	Noise monitoring was conducted monthly for the Botany Industrial Park (BIP) site. There were no noteworthy changes in reported noise emission levels compared with previous years associated with this development. There have been no complaints received nor reports required to be	All new equipment must be reviewed against the company engineering standards regarding both occupational and boundary noise levels. There are currently no specific improvement items identified nor plans in place to reduce noise emissions.

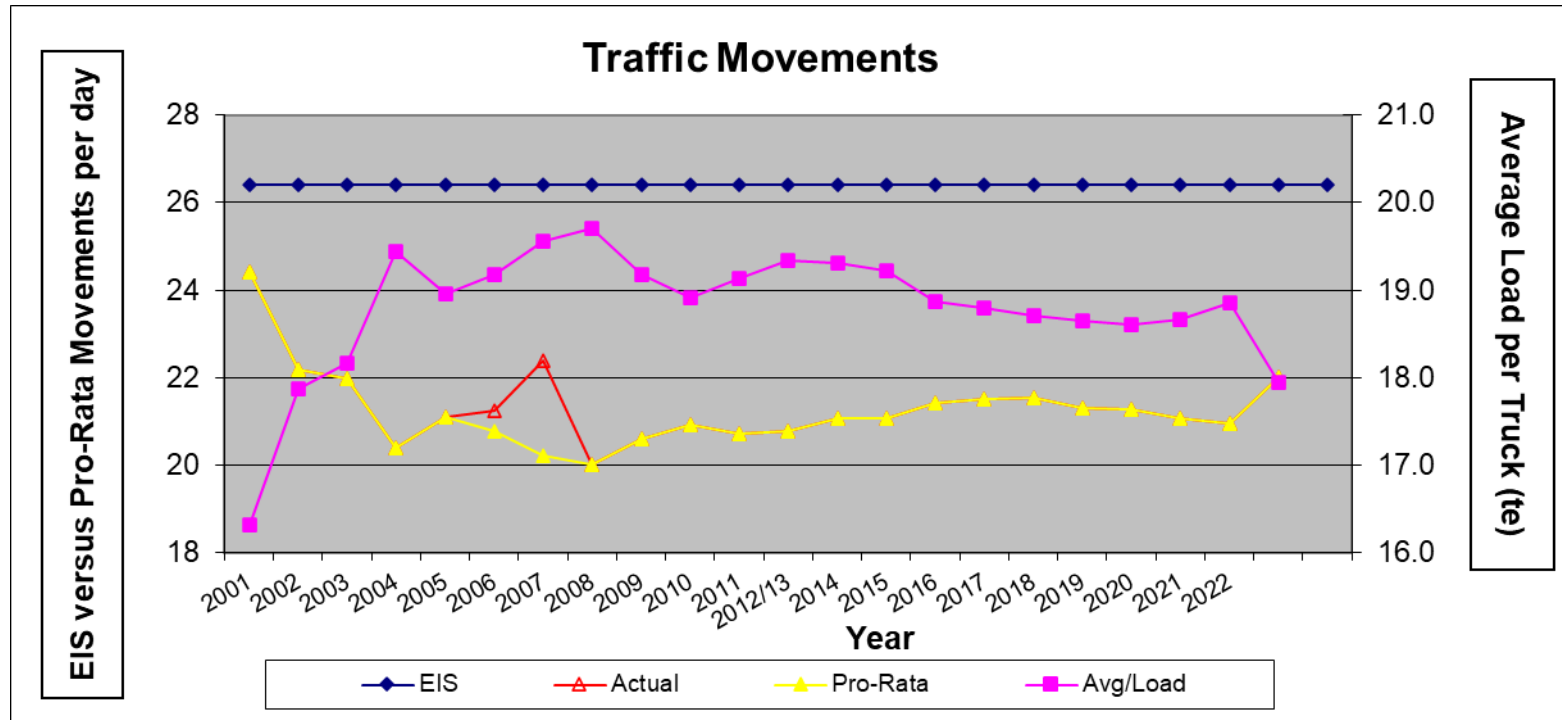
Environmental Aspect	Approval Criteria; Requirements in the Management Plan; Relevant predictions in the EA	Summary of Monitoring Results in the Previous Reporting Period	Summary of Monitoring Results in this Reporting Period	Improvement Measures to be Implemented
	Condition boundary noise level limits have been superseded by stricter EPA Pollution Reduction Programs over the life of the development.	made, during the reporting period, to EPA relating to the noise emissions from this development.	made, during the reporting period, to EPA relating to the noise emissions from this development.	
Waste Management	The generation of wastes and their appropriate disposal was the subject of Consent Conditions issued as part of the plant capacity upgrade development (DA35/97). All wastes are disposed of in accordance with EPA requirements.	There have been no complaints received nor reports required to be made, during the previous reporting period, to EPA relating to waste management associated with this development.	There have been no complaints received nor reports required to be made, during the reporting period, to EPA relating to waste management associated with this development.	The wastes that were generated in the early years of operation were the subject of the upgrade development consent. The comprehensive Waste Management Strategy developed and implemented during the upgrade development cleared all waste stockpiles as well as minimised the generation of wastes and increased recycling of polymer waste. Reliable plant operations continue to support low waste generation outcomes. There are currently no specific improvement items identified nor plans in place to reduce waste generation.
Traffic Management	The Conditions of Consent define specific reporting requirements in relation to traffic specifically truck movements.	The detailed report, provided in <b>Appendix D: Record of Traffic Movements</b> provides the historical performance of truck movements since	Refer to detailed report is provided in <b>Appendix D: Record of Traffic Movements</b> .	The volume of trucks is a function of production output, container type, product bulk density and fill efficiency. There is a strong economic driver to minimise truck movements, so the fill efficiency of



Environmental Aspect	Approval Criteria; Requirements in the Management Plan; Relevant predictions in the EA	Summary of Monitoring Results in the Previous Reporting Period	Summary of Monitoring Results in this Reporting Period	Improvement Measures to be Implemented
		the commencement of operations in Aug 1992.		each load is monitored and recorded. There are currently no specific improvement items identified nor plans in place to reduce truck movements or more specifically the truck fill efficiency other than the day-to-day monitoring and troubleshooting.
Public Amenity	The Conditions of Consent provide a general condition not to affect the amenity of the neighbourhood.	There were no community complaints received during the previous reporting period related to this development.	There were no community complaints received during the reporting period related to this development.	The operation of the elevated flare has in the past caused concern to the community even though its operation provides a safety function. This is addressed by notifying the EPA Environment Line, two Local Area Police Commands, Fire & Rescue NSW Command Centre, commercial and industrial neighbours as well as local schools (during school hours), whenever the elevated flare is operated. The Qenos and BIP websites and Qenos FaceBook page also contains information on the elevated flare purpose and operation.
Special Note: PFAS Firefighting Foams	As reported in the 2023 Annual Report, Qenos has migrated the Alkatuff plant PFAS fire-fighting foam supplies across to fluorine free foam, Respondol ATF 3-3.			

## Appendix D: Record of Traffic Movements

There was nil production for the reporting period (2023-2024), so no meaningful data is available on traffic movements in this period. The following *historical* data is provided regarding traffic movements associated with delivery of raw materials and distribution of finished products. From the data it can be seen that both the *actual* and *pro-rata* traffic movements were well below the projected upgrade EIS movements for the life of the facility. As with previous years, a trend line was provided to show the positive impact of bulk distribution efficiency of finished goods. Average finished product per load is a function of a number of factors including: grade mix/pellet cut (affects bulk density), number of product changes and associated part containers, container size and safe filling volumes. Strong commercial reasons including availability of containers, maintained focus to maximise the fill efficiency of containers.



In previous years, production from the plant had reached nameplate capacity hence the red trend line was added to reflect actual movements (as these were above the pro-rata figure for 2006 and 2007 only). **The 2024 plant throughput of NIL production** was well below nameplate capacity of 125kt due to loss of feedstock associated with Olefines Cooling Tower failure & rebuild and the subsequent business closure announcement. The delivery of hydrogen trailers, as per approved modified consent, commenced 20<sup>th</sup> December 2012. The contract with Coregas for trailer

supply of hydrogen came to an end in December 2017. Hydrogen supply has returned to pipeline supply from an Air Liquide facility which is located adjacent to the Botany Industrial Park. Whilst the hydrogen trailer movements represented a modest 2 movements per week the return to pipeline supply represented a further reduction in traffic movements. Bulk load efficiency remained high and the number of traffic movements per day remained well under EIS traffic movement figures associated with the upgrade approval.

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Raw materials	482	416	351	346	480	471	449	337	349
Finished Goods	6806	6379	4801	5266	6444	6665	7071	5630	5567
Total movements	7288	6795	5152	5612	6924	7136	7520	5967	5916
Actual movements per day	21.7	20.2	15.3	16.7	20.6	<del>24.2</del>	<del>22.4</del>	17.8	17.6
<b>Pro Rata movements per day</b>	<b>24.4</b>	<b>22.2</b>	<b>22.0</b>	<b>20.4</b>	<b>21.1</b>	20.6	20.2	<b>20.0</b>	<b>20.6</b>
<b>EIS movements per day</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>

	2010	2011	2012/3	2014	2015	2016	2017	2018	2019
Raw materials	408	391	730	436	536	504	510	470	426
Finished Goods	6456	6012	9029	4665	6016	5790	5843	5650	6207
Total movements	6864	6403	9759	5101	6552	6294	6353	6120	6633
Actual movements per day	20.4	19.1	16.6	15.2	19.5	18.7	18.9	18.2	19.7
<b>Pro Rata movements per day</b>	<b>20.9</b>	<b>20.7</b>	<b>20.8</b>	<b>21.1</b>	<b>21.1</b>	<b>21.4</b>	<b>21.5</b>	<b>21.5</b>	<b>21.3</b>
<b>EIS movements per day</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>

	2020	2021	2022	2023	2024	2025	2026	2027	2028
Raw materials	397	349	387	219	NA				
Finished Goods	6234	6189	6231	3536	NA				
Total movements	6631	6538	6618	3755	NA				
Actual movements per day	19.7	19.5	19.7	11.2	NA				
<b>Pro Rata movements per day</b>	<b>21.3</b>	<b>21.1</b>	<b>21.0</b>	<b>22.0</b>	<b>NA</b>				
<b>EIS movements per day</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>	<b>26.4</b>

Explanation of Terms:

Raw Materials – number of movements associated with raw materials

Finished Goods – number of movements associated with finished goods

Total movements – sum of raw material movements and finished goods movements

Actual movements per day – actual plant data, normalised for 7 day per week, 48 weeks per annum operation

Pro Rata movements per day – actual plant data pro-rata at production of 125ktpa, normalised for 7 day per week, 48 weeks per annum operation

EIS movements per day – movements stated in EIS and used as basis of comparison at production of 125ktpa (nameplate)

Notes:

- Data is based on actual movements in a 12 month period (2014 Annual Report = start of August of previous year to end of July of current year inclusive).
- Data represents the movements of trucks into the site (one way)