



Qenos May 2020 ACNCG update

To ACNCG member

This Qenos update to the ACNCG is in lieu of the May ACNCG meeting which has been cancelled due to COVID 19 restrictions. We would expect that the next meeting scheduled for August 2020 will be able to be conducted face to face and or by use of web conferencing technology.

Qenos plants have continued to operate through the COVID 19 impact and restrictions. We have implemented a significant number of measures to protect our people and to secure business continuity as detailed in this attached COVID response document. (Attachment 1)

1 Environment Performance

There have been no reportable environmental events of non-compliances since the February ACNCG meeting

Qenos has had one confirmed complaint for Olefins Flare noise on 24th April when Off-specification product from SCAL-1 being flared. Two complaints from Charles Road for petrochemical odour on 24th April and 8th May were not confirmed in follow up investigation's, but were classified as Plausible with Olefins the effluent plant as likely source.

A significant flaring event occurred on the evening of 13th May when Off-specification product from the SCAL-2 was flared following feed into a furnace. No calls were made to the EAL, but one of our community representatives informed us that the flaring was loud in Charles Road at the time.

2 Safety Performance

Safety Performance has been good with Zero recordable injuries in 2020 On 31st March the Altona Contractors reached a 1000 days recordable injury free period and on 15th May Altona employees reached 2 years without a recordable injury.

3 Regulatory interface

EPA

EPA attended Qenos on March 5th for the Annual Performance Statement audit. The inspection report noted that Amenity conditions A1 (Off-site Odour) and A2 (Off-site noise) to be likely non-compliant. Pollution Abatement Notice 90009621 (Copy attached) to assess Flare performance issued on 20th January is assessing flare performance, while the Qenos EIP has actions to reduce odours from the Olefins Effluent plant operation.



We advised the February ACNCG meeting that EPA was planning to issue Clean Up Notice 90009622 (Copy Attached) to carry out a site contamination assessment. It was formally issued on the 18th March. An Auditor has been engaged and the assessment has commenced.

Qenos Altona PFAS Clean Up Plan, subject to Clean Up Notice 90009008 continues on schedule. A milestone was achieved when the Resins Tankfarm PFAS cap report due end of March found that the cap had reduced the level PFAS to stormwater from the Tankfarm.

Worksafe

Worksafe continue to visit as part of the Qenos MHF license oversight. Due to COVID 19 impacts Worksafe have chosen to do virtual routine visits (online face to face meetings). Virtual visits have been completed at the Resins and Olefins sites.

Worksafe have also engaged Qenos about COVID 19 measures to ensure the safety of our workforce.

Worksafe plan to complete the 2020 annual inspection as planned in September

City West Water

We are currently renewing the Resins site Trade Waste Agreement. The renewal for 3 years from the end of May will see a licence reduction in the TDS mass load allowed requested by CWW as the results were always well below the limit.

2020 EIP status

See Attachment 2

Pressure Safety Valve Graph

See Attachment 3



Attachment 1: Qenos Pandemic Health Response Overview

Qenos is committed to providing a safe workplace for all workers. The health and safety of all personnel (employees and contractors) working on the Qenos sites is of key importance and a number of measures have been put in place to address or mitigate the risks associated with COVID-19.

Qenos established a COVID-19 Response Steering Team and has the COVID-19 Health Response Team reporting in to it. A number of activities and actions have been established to address the COVID-19 risks, these are noted in the table below.

<p>Health, Hygiene and PPE</p> <ul style="list-style-type: none"> • Additional routine cleaning measures • Deep clean & sanitisation procedures established • Additional soap/hand sanitiser stations installed • Additional PPE and hygiene products sourced (masks, sanitisers etc) • Paper cups re-instated & canteen practices modified • In-house hand sanitiser and surface sprays developed to counter market shortfalls • Flu vaccinations organised for all employees • Occupational Health Centre is onsite and available for advice and management of return to work clearances • Employee Assistance Program (EAP) access for personnel and their families 	<p>Physical Distancing</p> <ul style="list-style-type: none"> • Safe distancing marked in key areas (gatehouse, canteen etc.) • Minimising number of personnel on site <ul style="list-style-type: none"> ○ All non-essential visitors to Qenos restricted ○ Personal encouraged to work from home where possible ○ Rosters altered, staggered finishing times • Limits placed on personnel in small areas (kitchen, change-rooms etc.) • Online/phone meetings whenever possible • Work areas rearranged/separated (permit issue areas moved, control room arrangements modified etc.) • Guidelines for using Company Vehicles during a Pandemic published • Activities that need to be completed within 1.5m are minimised, risks assessed & controlled
<p>Infection control & response</p> <ul style="list-style-type: none"> • Screening questionnaire in place for non-inducted personnel • Temperature checks for restricted areas • Self-Health Check Kits distributed to Technicians, Maintenance and QA staff (includes personal thermometer) • COVID-19 scenarios and actions mapped out in flowcharts • Simulation drills conducted for COVID-19 incidents in the workplace 	<p>Other</p> <ul style="list-style-type: none"> • COVID-19 Resource Hub developed on the Qenos intranet • Posters placed in key areas to promote COVID-19 required behaviours (eg social distancing, correct hand washing) • International & interstate travel restricted

Qenos is monitoring the pandemic status, following Australian Government advice and will continue to update and modify the pandemic responses accordingly.

Qenos appreciates the effort that has been put in by all personnel to develop and comply with these changes during these uncertain times.



Attachment 2: 2020 EIP Management Activities

Environmental Impact	Site	Plan	Scheduled	Current status
Odour	All	Conduct the annual Odour Audit.	1Q	Cancelled due to COVID 19 restrictions. Can discuss at August ACNCG potential to do it in September
Soil and Groundwater	All	Conduct annual groundwater monitoring	4Q	Scheduled in November at normal time
Flares	Ole, Pla	Carry out annual flare noise testing to verify flare tip noise performance is at baseline. (Plastics & Olefins)	2Q	Plastics Flare Completed on 22 April.
Flares	Olefins	Optimise trim control of with new flare camera	1-2Q	In Progress
Flares	Plastics	Optimise trim control of with new flare camera	1-2Q	In Progress
Flares	Olefins	Reviewed Planned Flare Events As Per Olefins Flare Analysis and review Flare Alert Tool Data And Identify Improvement Opportunities to reduce. Assess whether flare impact has been reduced to an acceptable level and whether further flare risk reduction is needed.	1Q	Completed at February EMT
Training	All	Conduct Environmental & Sustainability Awareness training sessions	2-4Q	Not started yet. Will need to wait till COVID 19 restrictions have eased
Environmental Audit and Assessments	SHE	ISO 14001 Complete documentation in 1Q conduct Qenos Internal 14001 audit in 4Q	4Q	Work in progress Documentation wont be completed until July
Environmental Audit and Assessments	SHE	Conduct Olefins SCAL-2 Environment risk re assessments	3Q	
Environmental Audit and Assessments	SHE	Implement CUN 2020 90009622 actions, -Appoint Auditor, Develop Audit Scope and sampling and analysis plan	4Q	Auditor appointed Audit scope being developed and framework developed for Sampling and analysis plan
Environmental Audit and Assessments	Ole, Pla	Complete Flare review as per PAN 90009621 and report to EPA	4Q	In Progress Reporting requirement 3.2 Submitted by end of April deadline
StormWater	Plastics	Change over to container liners with vent mesh to eliminate pellet loss from bulk load out	3Q	Completed in May



Attachment 2: 2020 EIP Projects

Title	Consequence	Likelihood	Priority	Stage	Comment	Proj Status	Target
OLE008028 : Olefins Diesel Tank Leak detection System				6 MM	Installation in progress aiming for late 2Q, early 3Q completion, assuming no further delays associated with Covid19	In Progress	Dec-20
OLE010275 : ETP Odour Reduction: Activated Carbon Filter on API afterbay	III			3 PMP	Project being reviewed, with HAZOP needed to finalise design prior to appropriation. With likely delays associated with Covid19, commissioning now likely to be 1Q21	Design review in progress	Dec-20
OLE009175 : F-102/3 - T101 Differential Pressure Measurement	II	B		3 PMP	Installation almost complete. Commissioning still to be completed. Aiming for late 2Q, early 3Q	Installation in progress	Dec-20
PLA007352 Large RetentionTank repair	III	A		3 OFI	Repairs started in May	In Progress	Jan-21

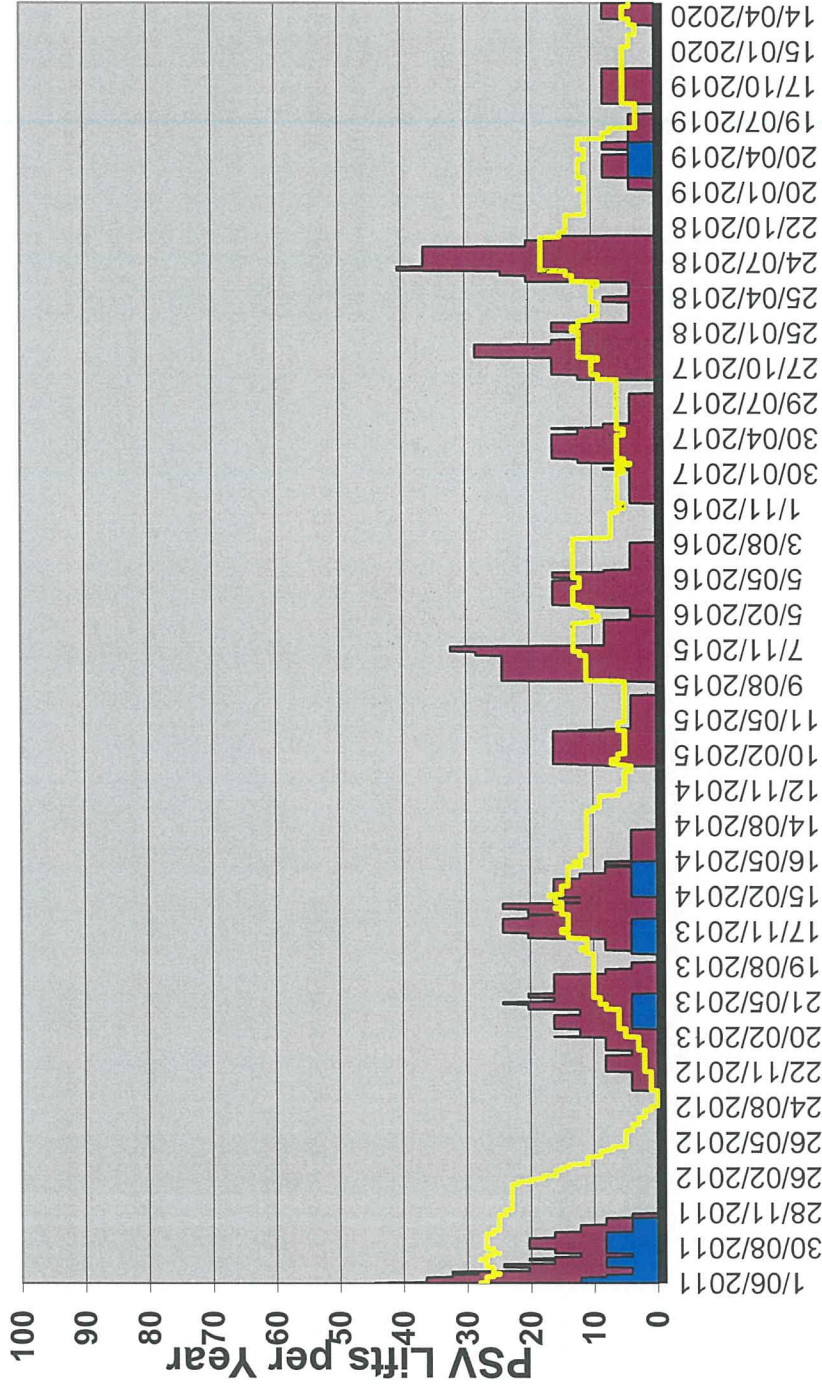


Attachment 3: Safety Valve Graph

High Pressure Events > PSV Set Points 90 Day Trend

2019 Total - 5
 2018 Total - 11
 2017 Total - 12
 2016 Total - 6
 2015 Total - 13

2020 YTD 2 PSV Lifts
 -1 Air compressor PSV
 - Scal-2 PSV to atmosphere following power



POLLUTION ABATEMENT NOTICE

Mr. Les Harman
QENOS PTY LTD
471-513 KOROROIT CREEK RD
ALTONA VIC 3018

TO: QENOS PTY LTD ACN: 054 196 771

ADDRESS: 471-513 KOROROIT CREEK RD, ALTONA VIC 3018

PREMISES: 471-513 KOROROIT CREEK RD, ALTONA VIC 3018

LEGAL REFERENCE: EP Act 1970 s.31A(1) Remedial notice required to address current or likely pollution, environmental hazard, or non-compliance

Who we are: Environment Protection Authority (EPA) Victoria is an independent statutory authority established under the *Environment Protection Act 1970* (the EP Act). Our purpose is to protect and improve our environment by preventing harm to the environment and human health.

Why we serve remedial notices: Remedial notices are served to prevent or remedy actual or likely pollution, environmental hazards and a range of non-compliances with the EP Act.

What you are required to do: Section 31A(2) of the EP Act requires you to comply with the requirements in this notice with one or more actions to prevent or remedy an actual or likely non-compliance. Under section 60A(1), if someone plans to take control of your premises, you must notify them of this notice and your progress towards compliance.

When this notice takes effect: 40 days from the date of issue below.

If you want compliance dates extended: An application to extend a compliance date listed in Section 3 of this notice must be received *at least 10 working days prior to the compliance date*. Application forms, available at www.epa.vic.gov.au/business-and-industry/forms must be addressed to the Manager of the EPA office listed on this notice with the subject line: "Notice amendment application". Your served notice remains legally binding until EPA advises of any change. Refer to the Remedial notices policy (publication 1418) for further information on amendment applications.

What happens if you do not comply: If found guilty of contravening a requirement of this notice, you may be ordered to pay a fine of up to 2400 penalty units (\$396,528) and an additional penalty of up to 1200 penalty units for each day the offence continues (\$198,264 a day).

What your review rights are: An application for review of this notice can be made to EPA and/or the Victorian Civil Administrative Tribunal (VCAT). Applications for an EPA review must be made within 7 calendar days from the notice issue date (below). VCAT applications must be made within 21 days of the notice issue date. Application forms for an EPA review are available at www.epa.vic.gov.au/business-and-industry/forms, or from our offices. For more information on your review rights, refer to the Remedial notice review policy (publication 1531) or contact us on 1300 EPA VIC (1300 372 842).

For the purpose of this notice 'You' means the recipient of this notice or your authorised representative and 'Premises' means the site at the premises address, as identified above.



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Bikash Rai

DELEGATE OF THE ENVIRONMENT PROTECTION AUTHORITY

DATE OF ISSUE: 20/01/2020

NOTICE STRUCTURE

1 EPA OBSERVATIONS

This section details what was observed during the inspection.

2 REASONS FOR VIEW FORMED

This section interprets the observations and articulates why the authorised officer believes a pollution abatement notice should be issued in accordance with section 31A of the EP Act.

3 REQUIREMENTS - WHAT OUTCOMES ARE REQUIRED TO COMPLY?

Considering the view that has been formed, this section lists the requirements or actions to address the environmental risk(s) or impact(s).

4 AN EXAMPLE OF HOW YOU CAN COMPLY

This section provides an example of how you may achieve compliance with the requirements of this notice.

1 EPA OBSERVATIONS

1.1 On Monday 7 January 2019, an EPA officer reviewed a number of pollution reports logged with EPA alleging Qenos Pty Ltd as the source of excessive noise and visible emission due to flaring. The Officer:

1.1.1 Noted that 16 reports regarding flaring and noise were logged by community members during the 2017-2018 period; and

1.1.2 That 4 reports regarding flaring and noise were logged by community members between July 2018 and December 2018.

1.2 As part of EPA licence compliance assessment for EPA Licence No.11214. EPA officers attended the ALTONA premises of QENOS PTY LTD located at 471-513 Kororoit Creek Road at 0935 hours on Wednesday 09 January 2019. The Officers:

1.2.1 Noted Licence condition LI_A2 no emission of noise and/or vibrations from the premises which are detrimental to either of the environment in the area around the premises and the wellbeing of persons and/or their property in the area around the premises and LI_DA2 Visible emissions to air other than steam must not be discharged from the premises, except as permitted by the licence;

1.2.2 Were informed by the site representative that Qenos self-reported non-compliance with the licence condition LI_A2 because four community complaints were received on 1 June 2018 in response to an incident where the SCAL-1 ethylene product went off specification on CO2 after commissioning of the propylene purification plant;

1.2.3 Noted that EPA received 1 report alleging noise from Qenos Pty Ltd on the same day;

1.2.4 Reviewed Qenos Incident Report QNC 506876 Ethylene off Specification on CO2, dated Friday 01 June 2018 with the site representatives and discussed other incidents that have occurred in the 2017-2018 financial year resulting in increased flaring and noise from the premises;

1.2.5 Discussed the increase in reports to EPA about flaring and noise from Qenos and that the such trends are not acceptable;

1.2.6 Noted that the Licence holder was non-compliant with licence condition A2 and DA2.

1.3 On Wednesday 16 January 2019, an EPA officer reviewed the incidents that had occurred during financial year (2018-2019). The Officer:

1.3.1 Noted that an incident (Qenos Incident Report 30444) occurred on Tuesday 03 July 2018 resulting in significant smoking and flaring for 40-50 minutes from the premises.

1.4 On Monday 10 May 2019, an EPA officer reviewed an internal EPA incident (8100032873) logged as a pollution report from a community member alleging noise and visible flaring from Qenos Pty Ltd on 09 May 2019. The Officer:

1.4.1 Noted that there was significant visible flaring in a video provided to EPA as part of the pollution report, which is a non-compliance of licence condition LI_A2 and LI_DA2.

1.5 On Friday 19 July 2019, EPA received an email notification from Qenos Pty Ltd regarding flaring due to compressor trip at the Olefins plant;

1.6 On Friday 09 August 2019, EPA received a business notification no. 200318776 from Qenos Pty Ltd regarding flaring operation due to plant restart as part of the recovery from a compressor shutdown;

1.7 On 27 June 2019, an EPA Officer issued a Notice to Identify Occupier under section 55(3D) of the EP Act to Qenos Pty Ltd, Notice No. 575044;

1.8 On 10 July 2019, an EPA Officer received the completed Notice to Identify Occupier No. 575044 and confirmed that Qenos Pty Ltd were the occupier of 471-513 Kororoit Creek Road, ALTONA VIC 3018 between the dates of 28 July 1960 and 01 July 2019.

2 REASONS FOR VIEW FORMED

Genos Altona Chemical Complex (Genos Pty Ltd) was established in the early 1960s and holds EPA Licence No. 11214 for the manufacturing of chemicals. The premises includes three plants – Olefins, Plastics and Resins.

Olefins produces ethylene for the downstream plastics plants and for other manufacturers. Both Plastics and Resins plants manufacture High Density Polyethylene (HDPE). The Genos facilities also produce butane, propylene, tar and pyrolysis gasoline. In addition, Genos Pty Ltd stores and handles various intermediate products and by products as part of the manufacturing process.

Condition LI_A2 of the EPA licence states that, “You must ensure that there are no emissions of noise and/or vibrations from the premises which are detrimental to either of the following:

- a) the environment in the area around the premises; and
- b) the wellbeing of persons and/or their property in the area around the premises.”

Condition LI_DA2 of the EPA licence states that, “Visible emissions to air other than steam must not be discharged from the premises, except as permitted by this licence.”

EPA has investigated several incidents relating to noise and visible emission impacting the community from the premises.

EPA has found that incidents at the premises has resulted in increased flaring which is occurring on a regular basis. These increased flaring events have resulted in reports of excessive noise and visible emission impacting the local community and triggering non-compliance with licence condition LI_A2 (Noise) and LI_DA2 (Visible Emissions) in contravention of section 27(2) of the EP Act.

On this basis, and considering the observations previously stated, I have formed a view and I am satisfied that:

- a process or activity which is being carried on at the premises

is likely to cause or has caused pollution, as per section 31A(1)(a) of the EP Act.

In order to address this, you must meet the requirements listed in this notice.



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Bikash Rai
AUTHORISED OFFICER
EPA Metropolitan West
EPA Victoria
DATE OF ISSUE: 20/01/2020

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REQUIREMENTS - WHAT OUTCOMES ARE REQUIRED TO COMPLY?

General Requirements

3.1 By 30 September 2020, you must develop an Environmental Management Plan (“EMP”) for the measurement, assessment and management of visible emissions and noise from the flaring activities at the premises. The EMP must include, but is not limited to:

- a) the assessment of upstream processes to identify and detail the root causes of flaring and frequency of flaring at the premises;
- b) the identification of options for the introduction of best available technologies, controls and/or best practice process changes to reduce the incidence and impacts of flaring at the premises; and
- c) recommendation(s) with time bound milestones for actual improvement to the system or processes to reduce and or address the root causes of flaring, smoking and noise from the premises to the maximum extent practicable.

Reporting Requirements

3.2 By 30 April 2020, you must supply to the officer listed on page 4 of the notice a report that includes but is not limited to:

- a) any works undertaken and/or operational processes instituted since 2009 to minimise impacts of noise and visible emissions to community;
- b) any measures taken including installation, alterations, maintenance or operations of any apparatus, plant or structures instituted since 2009 to minimise and or address impacts of flaring and root causes of flaring; and
- c) is signed by your managing director, most senior executive, or a person authorised to speak on behalf of the notice recipient.

3.3 By 30 November 2020, you must supply to the officer listed on page 4 of the notice a report that:

- a) satisfies the requirement 3.1 of the notice; and
- b) is signed by your managing director, most senior executive, or a person authorised to speak on behalf of the notice recipient.

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AN EXAMPLE OF HOW YOU CAN COMPLY

One way of achieving compliance with this notice would be to:

4.1 By 30 September 2020, prepare a draft Environmental Management Plan prepared by a suitably qualified person(s) and has regards to:

- a) assessment of upstream processes to identify and detail the root causes of flaring and frequency of flaring at the premises;
- b) options that will significantly reduce the rate and duration of flaring, smoking and noise impacting sensitive receptors;
- c) demonstrate the remedial action(s) proposed is/are the most appropriate for implementation; and
- d) specifies how the process, activity or use has been carried on or will be carried on, modified or controlled to achieve compliance with the notice requirements.

4.2 By 30 April 2020, supply to EPA a report prepared by suitably qualified person(s) that achieves requirements 3.2 and is signed by your managing director, most senior executive, or a person authorised to speak on behalf of the notice recipient.

4.3 By 30 November 2020, supply to EPA a report prepared by suitably qualified person(s) that achieves requirements 3.1 and is signed by your managing director or person authorised to speak on the behalf of the notice recipient.

CLEAN UP NOTICE

Mr. Les Harman
QENOS PTY LTD
471-513 KOROROIT CREEK RD
ALTONA VIC 3018

TO: QENOS PTY LTD ACN: 054 196 771

ADDRESS: 471-513 KOROROIT CREEK RD, ALTONA VIC 3018

PREMISES: 471-513 KOROROIT CREEK RD, ALTONA VIC 3018

LEGAL REFERENCE: EP Act 1970 s.62A(1) Clean up and ongoing management measures required

Who we are: Environment Protection Authority (EPA) Victoria is an independent statutory authority established under the *Environment Protection Act 1970* (the EP Act). Our purpose is to protect and improve our environment by preventing harm to the environment and human health.

Why we serve remedial notices: Remedial notices are served to prevent or remedy actual or likely pollution, environmental hazards and a range of non-compliances with the EP Act.

What you are required to do: Section 62A(1) of the EP Act requires you to comply with the requirements in this notice with one or more actions to prevent or remedy an actual or likely non-compliance. Under section 60A(1), if someone plans to take control of your premises, you must notify them of this notice and your progress towards compliance.

When you are required to act: Immediately, from the date below.

If you want compliance dates extended: An application to extend a compliance date listed in Section 3 of this notice must be received *at least 10 working days prior to the compliance date*. Application forms, available at www.epa.vic.gov.au/business-and-industry/forms must be addressed to the Manager of the EPA office listed on this notice with the subject line: "Notice amendment application". Your served notice remains legally binding until EPA advises of any change. Refer to the Remedial notices policy (publication 1418) for further information on amendment applications.

What happens if you don't comply: If found guilty of contravening a requirement of this notice, you may be ordered to pay a fine of up to 2400 penalty units (\$396,528).

What your review rights are: An application for review of this notice can be made to EPA and/or the Supreme Court. Applications for an EPA review must be made within 7 calendar days from the notice issue date (below). Application forms are available at www.epa.vic.gov.au/business-and-industry/forms, or from our offices. For more information on your review rights, refer to the Remedial notice review policy (publication 1531) or contact us on 1300 EPA VIC (1300 372 842).

For the purpose of this notice 'You' means the recipient of this notice and 'Premises' means the site at the premises address, as identified above.



Paul Stacchino

DELEGATE OF THE ENVIRONMENT PROTECTION AUTHORITY

DATE OF ISSUE: 18/03/2020

NOTICE STRUCTURE

1 EPA OBSERVATIONS

This section details what was observed during the inspection.

2 REASONS FOR VIEW FORMED

This section interprets the observations and articulates why the authorised officer believes a clean up notice should be issued in accordance with section 62A of the EP Act.

3 REQUIREMENTS - WHAT OUTCOMES ARE REQUIRED TO COMPLY?

Considering the view that has been formed, this section lists the requirements or actions to address the environmental risk(s) or impact(s).

4 AN EXAMPLE OF HOW YOU CAN COMPLY

This section provides an example of how you may achieve compliance with the requirements of this notice.

1 EPA OBSERVATIONS

1.1 As part of EPA licence compliance assessment for EPA licence no.11214. EPA officers attended the ALTONA premises of QENOS PTY LTD ("Qenos") located at 471-513 Kororoit Creek Road at approximately 0963 hours on Wednesday 09 January 2019. The officers:

1.1.1 Were informed by the site representative that an average of 2ug/L of PFAS has been measured in water discharging from the premises on high rainfall events;

1.1.2 Were informed by the site representative that a trial is underway to cap an area of the tank farm at the resins plant to demobilise the PFAS source. If successful other areas of the premises will be looked at to have similar controls installed;

1.1.3 Were informed by the site representative that non-compliance will continue until the source is contained;

1.1.4 Noted that EPA Clean Up Notice No.90009008 addresses on-site clean-up of PFAS with yearly reporting ongoing until 2020;

1.1.5 Discussed historical contamination at the premises with site representatives;

1.2 On Monday 07 January 2019, an EPA officer conducted a CERRA assessment for Qenos. The officer:

1.2.1 Noted that Benzene in groundwater at BH10Q0 exceed the groundwater HSL for vapour intrusion;

1.2.2 Noted that LNAPL is present on site;

1.2.3 Noted that groundwater contaminants include BTEX (Benzene, Toluene, ethylbenzene, Xylenes), NAPL, TPH/TRH, ammonia, metals (mercury & copper) and Perfluoro surfactants (PFOS, PFOA, etc) from historical activities at the premises;

1.3 On Wednesday 16 January 2019, an EPA officer conducted a desktop assessment (70012541) of the report titled "Groundwater Quality Management Plan, Qenos Altona Complex, dated 17 December 2018". The officer:

1.3.1 Noted that the report was prepared for the Qenos Altona complex which includes Elastomer located at 251-305 Maidstone Street, Altona, Olefins located at 471-513 Kororoit Creek Road, Altona, Plastics located at 231-243 Maidstone Street, Altona and Resins located at 611-629 Kororoit Creek Road, Altona;

1.3.2 Noted that the former Elastomers plant was decommissioned prior to December 2005;

1.3.3 Noted that Olefins produces ethylene for the downstream plastics plants and for other manufacturers. Both Plastics and Resins plants manufacture High Density Polyethylene (HDPE). The Qenos facilities also produce butene, propylene, tar and pyrolysis gasoline. In addition, the facility stores and handles various intermediate products and by products as part of the manufacturing process;

1.3.4 Noted that the groundwater flow direction beneath the site in the Newer Volcanics basalt is predominantly to the southeast, with a more southerly flow direction observed at Resins;

1.3.5 Noted that several potential receptors of groundwater migrating from the site are present within the vicinity of the site that includes Temperate Grasslands, Galvin Drain, Kayes Drain, Laverton Creek, Cherry Creek, Cherry Lake, Kororoit Creek, Truganina Swamp, Altona Main Sewer, Altona Treatment Plant, Port Phillip Bay and Registered Groundwater Users for Extractive Purposes;

1.3.6 Noted that based on background TDS levels in groundwater entering the site (wells located along the northern boundary) and the average TDS concentrations recorded during the October 2018 GME, groundwater is classified as Segment C (3,101 to 5,400 mg/L TDS) under the SEPP Waters (GOV, 2018).

1.3.7 Noted that beneficial uses are existing or likely existing off site for Water dependent ecosystems and species, Agriculture and irrigation (stock watering), Water-based recreation (primary contact recreation), and Buildings and structures;

1.3.8 Noted that beneficial use of human health (vapour intrusion) exists on site;

1.3.9 Noted that LNAPL was identified at Olefins plant area and Plastics plant area;

1.3.10 Noted that NAPL was identified at Olefins and Plastics;

1.3.11 Noted that TRH and Semi volatile was identified at Olefins, Plastics and Resins;

1.3.12 Noted that Benzene, Toluene, Ethylbenzene, Xylene, naphthalene (BTEXN) was identified at Elastomers, Olefins, Plastics and Resins;

1.3.13 Noted that Styrene was identified at Olefins;

- 1.3.14 Noted that Polycyclic Aromatic Hydrocarbons (PAH, including naphthalene) was identified at Olefins;
- 1.3.15 Noted that Halogenated Aliphatic Compounds (1,2- Dichloroethane (1,2-DCA)), 1,1 Dichloroethene (1,1-DCE), and carbon tetrachloride was identified at Olefins;
- 1.3.16 Noted that Metals (Copper, Zinc, Nickel, Mercury, Chromium) was identified at Olefins;
- 1.3.17 Noted that Ammonia was identified at Olefins;
- 1.3.18 Noted that PFAS compounds was identified at Elastomers, Olefins, Plastics and Resins;
- 1.3.19 Noted that groundwater should not be extracted from the site for any purpose other than groundwater monitoring or remediation;
- 1.3.20 Noted that any future construction works at the site that incorporate excavations below groundwater level are to be managed by Qenos due to the potential contamination which may be encountered during such works.

1.4 On Tuesday 25 June 2019, an EPA officer conducted a desktop assessment (700013597) of the report titled "Qenos Annual Groundwater Monitoring Event 2018 dated 27-Feb-2019". The officer:

- 1.4.1 Noted that concentrations of 1,1-dichloroethene and carbon tetrachloride were identified above the Groundwater Quality Objectives ("GWQO") for the beneficial uses of agriculture and irrigation (stock watering) in a well located offsite to the south of Olefins;
- 1.4.2 Noted that concentrations of Benzene exceeded the GWQO for agriculture and irrigation (stock watering) and water-based recreation (primary contact recreation) were identified in wells on the southern boundary of Plastics, and potentially extend offsite;
- 1.4.3 Noted that the concentration of Benzene in BH8QR, adjacent to the southern site boundary, was above the GWQO for water-based recreation (primary contact recreation);
- 1.4.4 Noted that Benzene in groundwater at Olefins (in well BH10QO and BH172QO) exceeded the RBTL for human health (vapour intrusion);
- 1.4.5 Noted that an increasing trend in Benzene concentration was observed in groundwater from BH18QP, with Benzene reaching a maximum historical concentration;
- 1.4.6 Noted that the concentrations of cis 1,2-dichloroethene and 1,2-dichloroethane were detected above the GWQO for stock watering in BH9QO and BH15QO respectively;
- 1.4.7 Noted that Light Non-Aqueous Phase Liquid that LNAPL was present in Olefins and Plastics area of the site;
- 1.4.8 Noted that BH10QO reported an Ammonia concentration of 58 µg /L in groundwater which is above the ANZECC 2000 Recreation Investigation Level of 10 µg/L criteria adopted for beneficial use of primary contact recreation;
- 1.4.9 Noted that BH137QO reported an Ammonia concentration of 20 µg /L in groundwater which is above the ANZECC 2000 Recreation Investigation Level of 10 µg/L criteria adopted for beneficial use of primary contact recreation;
- 1.4.10 Noted that BH27QO, BH33QO, BH104QO, BH129QO, BH131QO, BH132QO, BH133QO, BH134QO, BH137QO, BH143QO, BH144QO, BH159QO, BH160QO, BH169QO, BH171QO, BH172QO and BH173QO reported Naphthalene concentrations in groundwater that were all above the ANZECC/ARMCANZ (2000) Guidelines for Fresh and Marine Water Quality for 80 % level of species protection for Naphthalene (85 µg/L);
- 1.4.11 Noted that BH35QO reported 1,1 dichloroethene concentrations in groundwater of 33 µg/L above Dutch Intervention Criteria (10 µg/L);
- 1.4.12 Noted that BH137QO reported Copper concentration in groundwater of 2960 µg/L that was above the (ANZECC/ARMCANZ (2000) Guidelines for Fresh and Marine Water Quality) for 80% levels of species protection for Copper (2.5 µg/L).

1.5 On 27 June 2019, an EPA Officer issued a notice to identify occupier under section 55(3D) of the EP Act to Qenos Pty Ltd, Notice No. 575044;

1.6 On 10 July 2019, an EPA Officer received the completed Notice No. 575044 and confirmed that Qenos Pty Ltd (ACN: 054 196 771) were the occupier of 471-513 Kororoit Creek Road, ALTONA VIC 3018 between the dates of 11 December 1991 and 01 July 2019;

1.7 On 10 July 2019, an EPA Officer received the completed Notice No. 575044 and confirmed that Qenos Olefins Pty Ltd (ACN: 004 486 453) were the occupier of 471-513 Kororoit Creek Road, ALTONA VIC 3018 between the dates of 28 July 1960 and 01 July 2019.

2 REASONS FOR VIEW FORMED

Genos is licensed by EPA for the manufacturing of chemicals (EPA License no. 11214) and includes three plants – Olefins, Plastics and Resins. Genos is also the occupier of the site where the Elastomers plant previously operated.

The premises under EPA license no. 11214 and the Elastomers site are together referred to as "the premises".

Olefins produces ethylene for the downstream plastics plants and for other manufacturers. Both Plastics and Resins plants manufacture High Density Polyethylene (HDPE). The Genos facilities also produce butane, propylene, tar and pyrolysis gasoline. In addition, Genos stores and handles various intermediate products and by products as part of the manufacturing process. The Elastomers plant has been decommissioned from its production with the removal of much of its plant and buildings. A range of environmental assessment and clean up actions have yet to be completed at the Elastomers site.

A review of reports indicates that contamination at the premises includes LNAPL, NAPL, TRH, Semi volatile, Benzene, Toluene, Ethylbenzene, Xylene, naphthalene (BTEXN), Styrene, Polycyclic Aromatic Hydrocarbons (PAH, including naphthalene), Halogenated Aliphatic Compounds (1,2- Dichloroethane (1,2-DCA)), 1,1-Dichloroethene (1,1-DCE), and carbon tetrachloride), Metals (copper, zinc, nickel, mercury, Chromium), Ammonia and PFAS compounds. Concentrations of 1,1-dichloroethene and carbon tetrachloride have been detected in a well on-site at levels that would preclude some beneficial uses.

EPA has therefore formed the view that groundwater contaminated with pollutants remains at the premises and must be thoroughly assessed and cleaned up, as appropriate.

On this basis, and considering the observations previously stated, I have formed a view and I am satisfied that you are the occupier of the premises upon or from which pollution has occurred or been permitted to occur, as per section 62A(1)(a) of the EP Act.

In order to address this, you must take the clean up and ongoing management measures listed in this notice.



.....
Bikash Rai
 AUTHORISED OFFICER
 EPA Metropolitan West
EPA Victoria
DATE OF ISSUE: 18/03/2020

3

REQUIREMENTS - WHAT OUTCOMES ARE REQUIRED TO COMPLY?

General Requirements

ENGAGE AN AUDITOR

3.1 By 30 March 2020, you must have engaged the services of an EPA- appointed Environmental Auditor to undertake a s53V audit and supply that confirmation in writing to EPA.

Reporting Requirements

53V AUDIT SCOPE

3.2 By 31 July 2020, you must supply to EPA in writing for approval the Environmental Auditor's proposed environmental audit scope for the assessment of the risk of harm to human health and the environment of contamination at and from the premises that includes, but not limited to, the following:

- (a) focusses on both current and legacy contamination;
- (b) all areas of the premises including areas that are operating and areas that have been decommissioned;
- (c) an assessment of land (soil), groundwater, surface water and soil vapour;
- (d) detailing the proposed audit criteria, sampling and testing program, and quality control procedures;
- (e) Identifies the likely causes of identified sources of contamination
- (f) recommendations for any further monitoring;
- (g) recommendations for any further works, including remediation works and clean up works;
- (h) recommendations for any management actions including any restrictions on the use of the premises;
- (i) specifies the expected timeline for completion of the audit; and
- (j) must meet the requirements of section 8 of EPA publication 952, Environmental Auditor Guidelines for the Preparation of Environmental Audit Reports on the Risk to the Environment.

AUDITOR VERIFIED SAMPLING AND ANALYSIS QUALITY PLAN

3.3 By 15 January 2021, you must supply in writing to EPA, a Sampling and Analysis Quality Plan ("SAQP") verified by an EPA-appointed Auditor in accordance with the National Environment Protection (Assessment of Site Contamination) Amendment Measure, in particular Schedule B1 Guideline on Investigation Levels for Soil and Groundwater and Schedule B2 Guideline on Site Characterisation. The SAQP should include:

- (a) details for the assessment of land (soil), groundwater, surface water and soil vapours;
- (b) a soil sampling plan based on the site history at a sampling density consistent with "AS 4482.1, Australia Standard Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-Volatile and semi-volatile compounds"; and
- (c) groundwater sampling consistent with "EPA Publication 669 – Groundwater Sampling Guidelines".

AUDITOR VERIFIED CLEAN UP PLAN

3.4 By 14 January 2022, you must supply in writing to EPA, a Clean Up Plan (“CUP”) verified by an EPA-appointed Auditor, with time bound milestones to restore beneficial use to the extent practicable that includes the following:

- (a) delineation of the level, extent and quality of land (soil), groundwater and soil vapour contamination at and from the premises;
- (b) details of mitigation measures, associated monitoring programs and reporting dates;
- (c) recommendations for the removal of waste and removal or remediation of contaminants on and extending beyond the boundary of the premises, and
- (d) the date(s) by which all actions will be completed.

ENVIRONMENTAL AUDITOR TO PREPARE AUDIT REPORT

3.5 By 01 July 2022, you must supply to EPA, an environmental audit report prepared by an EPA-appointed Environmental Auditor, prepared in accordance with section 53V of the Act and consistent with the approved environmental audit scope and SAQP.

4 AN EXAMPLE OF HOW YOU CAN COMPLY

One way of achieving compliance with this notice would be to:

4.1 By date specified in requirement 3.1, engage an EPA appointed Environmental Auditor with expertise in contamination assessments and confirm this engagement in writing to EPA Victoria. Details on how to appoint an auditor can be found on the EPA website: <http://www.epa.vic.gov.au/our-work/environmental-auditing/environmental-auditors/listof-environmental-auditors>;

4.2 By date specified in requirement 3.2, provide to EPA, a s53V scope report undertaken by an EPA appointed environmental auditor. The auditor must supply to EPA the scope for 53V for approval, prepared in accordance with EPA publication 952.5, Environmental Auditor Guidelines for the Preparation of Environmental Audit Reports on the Risk to the Environment.

4.3 By date specified in requirement 3.3, provide to EPA a Sampling and Analysis Quality Plan ("SAQP"):

- engage a suitably qualified person with experience in assessing contaminated land and groundwater (the engaged person) to prepare a Sampling and Analysis and Quality Plan (SAQP) in accordance with the National Environment Protection (Assessment of Site Contamination) Measure, in particular Schedule B1 Guideline on Investigation Levels for Soil and Groundwater and Schedule B2 Guideline on Site Characterisation; and
- submit in writing to EPA Victoria, the SAQP completed by the engaged person, which should:
 - be verified by an EPA-appointed Environmental Auditor;
 - include a soil sampling plan based on the site history at a sampling density consistent with "AS 4482.1, Australia Standard Guide to sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds"; and
 - include groundwater sampling consistent with "EPA Publication 669 – Groundwater Sampling Guidelines

4.4 By date specified in requirement 3.4, provide to EPA a Clean Up Plan ("CUP") that details the level and extent of contamination in soil and groundwater on and from the premises and the plan to remediate, clean-up and/or monitor these areas, verified by an EPA-appointed Environmental Auditor.

4.5 By date specified in requirement 3.5, provide to EPA an environmental audit report prepared by an EPA appointed auditor in accordance with EPA publication 952.5, Environmental Auditor Guidelines for the Preparation of Environmental Audit Reports on the Risk to the Environment but not limited to:

- delineation of the extent of any contamination beyond the boundary of the premises caused by past or current industrial processes, activities or waste;
- specifies the risk of any possible harm or detriment to beneficial uses of the environment; and
- recommends measures to reduce the risks to beneficial uses to acceptable levels, or, where risks cannot be determined, measures to determine risks.

