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Attention: Mr Jeffrey Peng

ELECTRONIC MAIL
4 May 2022

Dear Mr Peng,

EPA Response to Submissions

Thank you for the request for advice from Public Authority Consultation (PAE-32670512), requesting the review by the NSW Environment Protection Authority (EPA) of the Environmental Impact Assessments for the proposed Second Thermal Oxidiser (Application DA246/96 MOD-4) at Terminals P/L, 45 and 51 Friendship Road, Port Botany (the premises).

The proposal for a second thermal oxidiser was first referred to the EPA under section 4.55(1A) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on 30 November 2020. The EPA provided significant responses to the documents submitted as part of that referral and met with the applicant and the Department of Planning and Environment (DPE) a number of times. That application was subsequently withdrawn, and the current application (DA246/96 MOD-4) was submitted under section 4.55(2) of the EP&A Act and referred to the EPA for advice on 29 November 2021.

The EPA understands that this proposal is for:

- Installation and operation of a second thermal oxidiser (TO) and associated infrastructure at the premises, to combust liquid hydrocarbon waste generated at the premises.
- Demolition and removal of an existing liquid waste tank.
- Repurposing of an existing tank for use as a new liquid waste tank.

On 17 December 2021, 24 December 2021 and 18 February 2022, the EPA provided initial comments on the proposal under section 4.55 (2), seeking more information on the environmental impacts. As a result of these comments and a meeting held between Terminals, DPE and the EPA on 3 March 2022, the proponent has submitted amended versions of the environmental impact assessments for review.

As part of this application the EPA has reviewed the *Statement of Environmental Effects Section 4.55(2) to DA 246/96, Second Combustor, Terminals Port Botany*, prepared by Urbis, (the EIS) which includes key appendices. On this occasion, the EPA has reviewed the following documents that were provided to the EPA on 11 March 2022 and 21 March 2022:

- Air Quality Impact Assessment Report (Rev 5), prepared by Peter Ramsay and Associates dated 18 January 2022 (the AQIA)
- Waste Management and Impact Assessment (V3d) prepared by Icubed dated 15 March 2022 (the WMIA)
- Waste Management and Heat Recovery Report, prepared by Quantem dated 14 March 2022 (the Waste Management and Heat Recovery Report)
- Quantem Response to Submissions – EPA – Air R1, prepared by Quantem dated 4 March 2022 (Air file note)

The EPA has reviewed the documents referred to above and has determined that generally, they adequately address the issues identified by the EPA in previous requests for information. The issues that have not been fully addressed in the proposal can be adequately managed via the recommended conditions of consent for the planning approval. The EPA recommends conditions of consent to be included in the planning approval in **Attachment A.**

Activities undertaken at the premises are regulated by the EPA under Environment Protection Licence number 1048 (the licence), issued under the *Protection of the Environment Operations Act 1997* (the Act). In exercising its licensing functions under section 45 of the Act, the EPA is required to take into consideration any pollution caused or likely to be caused by activities under the licence and the likely impact of that pollution on the environment. The EPA has considered these issues as part of its review of the planning application. If planning approval is provided by DPE, the EPA will be able to amend the licence to permit the operation of the second thermal oxidiser generally subject to the likely licence conditions in **Attachment B**.

If you have any questions in relation to this matter, please contact Afnan Fazli on (02) 8275 1415 or at Afnan.Fazli@epa.nsw.gov.au.

Yours sincerely

Erin Barker
Manager Regulatory Operations
Regulatory Operations Metropolitan

Attachment A – Recommended Conditions of Consent

Air Quality

1. The second thermal oxidiser (TO-2) vent stack must be built to a height of at least 17.5 m.
2. The second thermal oxidiser (TO-2) must be fitted with sampling ports to enable emission testing requirements to be undertaken. The sampling ports must be fitted in a such a manner that emission testing can be undertaken in accordance with Australian Standard AS4323.1 *Stationary source emissions - Selection of sampling positions (2021).*

Waste Management

Waste Conditions

1. The thermal oxidiser must only be used to treat waste generated on the site.
2. Liquid waste generated on site must be avoided and minimised to the extent possible, and the management of liquid waste must be undertaken in accordance with current best practice and in the most environmentally sound manner.
3. The waste streams to be treated in the thermal oxidiser must be consistent with the specifications and information contained in the EIS and specifically the document *Technical Specification for the Supply of a VOC & Liquid Waste Thermal Oxidiser* (EIS Appendix D, CEC Engineers, August 2021).
4. The proponent must prepare and implement a site-specific waste management plan (WMP). The WMP must include each of the measures relevant to the management of waste identified or described in the project EIS, Response to Submissions and supporting information submitted for the project.
5. The WMP must include regular monitoring and review of site waste management systems and available offsite treatment options to ensure site liquid waste generation is avoided or minimised, and management of liquid waste is undertaken in accordance with current best practice and in the most environmentally sound manner.
6. The WMP must include the potential further improvements for liquid waste avoidance and mitigation identified in the EIS and as identified from monitoring and review of site waste management systems and available offsite treatment options.
7. The WMP must include a specification or specifications including all relevant chemical and physical parameters for liquid waste to be treated by the thermal oxidiser.
8. The WMP must include details of the operations, controls, monitoring and recording of monitoring information associated with the influent waste streams that are processed by the thermal oxidiser.
9. The WMP must include the collection and recording of information for liquid waste generated at each source/operational area, including the composition, quantity, treatment and fate of the liquid waste.

Operating Conditions

1. The thermal oxidiser design must be consistent with the specifications and information contained in the EIS and including the document *Technical Specification for the Supply of a VOC & Liquid Waste Thermal Oxidiser* (EIS Appendix D, CEC Engineers, August 2021).

Stormwater Conditions

1. The proponent must prepare and implement a stormwater/surface water management plan. The stormwater/surface water management plan must include each of the measures relevant to the management of water and stormwater described in the project EIS, Response to Submissions and supporting information submitted for the project.
2. The stormwater/surface water management plan must include regular monitoring and review of site stormwater/surface water management systems to ensure contamination is avoided or minimised, and site stormwater/surface water is managed in accordance with best practice techniques.

Attachment B – Likely Licensing Conditions

Note: these conditions are provided at this stage to provide Terminals with indicative guidance as to what conditions to expect if planning approval is provided and the licence requires amendment. It is possible that the EPA may include additional conditions in the licence based on its recommended conditions of consent in **Attachment A.**

P1.1 Location of monitoring/discharge points

EPA ID no.			
A	Thermal oxidiser vent stack	Thermal oxidiser vent stack	**new thermal oxidiser (TO-2) vent stack**
B	Thermal oxidiser temperature monitoring		**new thermal oxidiser (TO-2)**

L3.1 Air concentration Limits

POINT (A)

Pollutant					
Oxides of nitrogen (as NO_2)	Milligrams per cubic metre	350	Dry, 273 K, 101.3 kPa	3 %	1 hour
Volatile organic compounds (as n-propane)	Milligrams per cubic metre	20	Dry, 273 K, 101.3 kPa	3 %	1 hour
Benzene	Milligrams per cubic metre	1	Dry, 273 K, 101.3 kPa	3 %	1 hour
Type 1 and Type 2 substances in aggregate	Milligrams per cubic metre	1	Dry, 273 K, 101.3 kPa	3 %	1 hour
Solid particles (Total)	Milligrams per cubic metre	20	Dry, 273 K, 101.3 kPa	3 %	1 hour
Sulfuric acid mist (H_2SO_4) or sulfur trioxide (SO_3) or both, as SO_3 equivalent.	Milligrams per cubic metre	100	Dry, 273 K, 101.3 kPa	3 %	1 hour
Dioxins or furans	Nanograms per cubic metre	0.1	Dry, 273 K, 101.3 kPa	3 %	As per TM-18

Limit Conditions for Waste

Covered in the recommended conditions of consent – via the 'Operating Conditions' requirements for the TO and waste streams to be consistent with the specification and information contained in the EIS.

O4.2 The thermal oxidiser (Point B) must be operated in such a manner to achieve a minimum residence time of two (2) seconds over a 1 hourly averaging period

O4.3 The thermal oxidiser (Point B) must be operated in such a manner as to achieve a minimum combustion temperature of 980 deg Celsius over a 1 hourly rolling averaging period

O4.4 The requirements in condition O4.2 and O4.3 must be achieved when air impurities are required to be treated by the after burner

O5 Waste Management

Covered in the recommended conditions of consent – via the 'Waste Conditions' requirements for a WMP.

M2.3 Air Monitoring Requirements

POINT (A)

Pollutant			
Oxides of nitrogen (as NO_2)	Milligrams per cubic metre	Yearly	TM-11
Volatile organic compounds (as n-propane)	Milligrams per cubic metre	Yearly	TM-34
Benzene	Milligrams per cubic metre	Yearly	TM-34
Oxygen	Percent	Yearly	TM-24
Temperature	Degrees Celsius	Yearly	TM-2
Dry gas density	Kilograms per cubic metre	Yearly	TM-23
Moisture content	Percent	Yearly	TM-22
Molecular weight of gases	Grams per gram mole	Yearly	TM-23
Velocity	Metres per second	Yearly	TM-2
Volumetric flowrate	Cubic metres per second	Yearly	TM-2

POINT (B)

Parameter			
Residence time	Seconds	Continuous	CEM-6
Temperature	Degrees Celsius	Continuous	TM-2

Special Conditions

EX Air emissions verification

EX.1 Within six months of installation of the second thermal oxidiser (TO-2), the licensee must undertake post-commissioning testing.

The monitoring program must include, as a minimum four rounds of post-commissioning monitoring of the pollutants and parameters in the table below. At least two rounds of monitoring must be undertaken when treating emissions vented during filling of tanks and two rounds of monitoring must be undertaken during the burning of liquid waste. The monitoring undertaken during burning of liquid waste must include operation under representative conditions and also include treatment of the full range of liquid waste compositions to be thermally oxidised.

Pollutant			
Oxides of nitrogen (as NO_2)	Milligrams per cubic metre	Special Frequency 1	TM-11
Volatile organic compounds (as n-propane)	Milligrams per cubic metre	Special Frequency 1	TM-34

Benzene	Milligrams per cubic metre	Special Frequency 1	TM-34
Type 1 and Type 2 substances in aggregate	Milligrams per cubic metre	Special Frequency 2	TM-12, TM-13 and TM-14
Solid particles (Total)	Milligrams per cubic metre	Special Frequency 2	TM-15
Sulfuric acid mist (H_2SO_4) or sulfur trioxide (SO_3) or both, as SO_3 equivalent.	Milligrams per cubic metre	Special Frequency 2	TM-3
Dioxins or furans	Nanograms per cubic metre	Special Frequency 2	TM-18
Oxygen	Percent	Special Frequency 1	TM-24
Temperature	Degrees Celsius	Special Frequency 1	TM-2
Dry gas density	Kilograms per cubic metre	Special Frequency 1	TM-23
Moisture content	Percent	Special Frequency 1	TM-22
Molecular weight of gases	Grams per gram mole	Special Frequency 1	TM-23
Velocity	Metres per second	Special Frequency 1	TM-2
Volumetric flowrate	Cubic metres per second	Special Frequency 1	TM-2

Special Frequency 1 means four rounds of post commissioning monitoring within a six-month period and occurring at no less than 2 weeks apart.
Special Frequency 2 means two rounds of post commissioning monitoring during treatment of liquid waste to be undertaken within a six-month period and occurring at no less than 2 weeks apart.

EX.2 Within six weeks of completing the post-commissioning testing, the licensee must provide a Post Commissioning Verification Report (the Report) to the EPA. The EPA may utilise the information contained in the Report submitted to include additional conditions in this EPL. The Report must:

a) Include all analytical results of post-commissioning monitoring required. Any external analytical report must be reproduced in full.
b) Include all the information listed in section 5 of the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
c) Describe all operational parameters and characterise the inputs during post-commissioning testing. Evidence must be provided to show the operating conditions of the plant during all testing periods, including the chemical composition of the liquid waste that was treated.
d) Compare analytical results from post commissioning monitoring against the emission limits in condition L3.1.
e) Should any comparison under (d) identify monitored discharge concentrations above the emission limits, the licensee must identify measures to achieve the emission limits and provide a timeframe for implementation of any measure or actions identified.