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Mr Jeffrey Peng
Senior Environmental Assessment Officer
Planning and Assessment Division
Department of Planning, Industry and Environment
Locked Bag 5022
PARRAMATTA NSW 2124
Email: Jeffrey.Peng@planning.nsw.gov.au

Attention: Mr Jeffrey Peng

ELECTRONIC MAIL
17 December 2021

Dear Mr Peng,

EPA Request for more Information on Environmental Impacts

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 EPA has received the following documents:

- Waste Management and Impact Assessment, Quantem Port Botany (v3.0)– icubed consulting – 03/11/2021 (the WMIA)
- Quantem (Terminals Pty Ltd) Air Quality Impact Assessment Report (Rev 04) – 45 Friendship Road, Port Botany NSW 2036 – Peter J Ramsay & Associates – 08/11/2021 (the AQIA)

The EPA is providing comments for the AQIA in this letter and will update its response as soon as possible to incorporate comments on the WMIA.

The EPA understands that the proposal is for:

- Installation and operation of a second thermal oxidiser 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.

Activities undertaken at the premises are regulated by the EPA under Environment Protection Licence no. 1048 (the licence), issued under the Protection of the Environment Operations Act 1997 (the Act). Under Section 45 of the Act, in exercising its licensing functions, 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.

Phone 131 555
Phone +61 2 9995 5555
(from outside NSW)

TTY 133 677
ABN 43 692 285 758

Locked Bag 5022
Parramatta
NSW 2124 Australia

4 Parramatta Square
12 Darcy St, Parramatta
NSW 2150 Australia

info@epa.nsw.gov.au
www.epa.nsw.gov.au

The EPA notes that this proposal was previously submitted through 4.55(1A) of the Environmental Planning and Assessment Act 1979 as Modification 3 (Mod-3) and sent to the EPA for comment (PAE-11650633) on 30 November 2020. The EPA reviewed the previous AQIA (Peter J Ramsay & Associates, V1.2, November 2020) and discussed the issues in subsequent meetings with the proponents and the Department. A revised AQIA (Peter J Ramsay & Associates, V1.3, February 2021) (the revised AQIA for Mod-3) was submitted under Mod- 3 prior to its withdrawal. The EPA refers to the revised AQIA for Mod-3 in this advice.

The EPA has reviewed the AQIA and considers that the document does not clearly present the expected and modelled emissions for the proposal.

The AQIA submitted for Mod-4 is not significantly altered from the revised AQIA submitted under Mod-3. Although the predicted impacts do not exceed the impact assessment criteria and the benzene impacts from the proposed thermal oxidiser do not appear to significantly contribute to ground level concentrations, the AQIA lacks clarity and robustness in providing the emission parameters with the result that it hinders evaluation of the proposal. Specifically, the EPA has identified numerous inconsistencies with the flow rates, two sets of manufacturer emission concentrations and stack specifications. The EPA is unable to confidently ascertain that the predicted impacts remain valid considering the uncertainties identified in the AQIA. Further details are outlined in **Attachment A**.

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



17 December 2021

Erin Barker
Manager Regional Operations
Regulatory Operations Metropolitan

Attachment A – EPA review of the AQIA for Mod-4

Inconsistent and unclear emission concentrations and emissions parameters

The AQIA states that the proposed maximum emission limit for benzene is 1 mg/m³, however provides manufacturer emission calculations at reference conditions in both Appendix E (1.7482 mg/m³) and Appendix G (0.3707 mg/m³) that differ. The methodology section of the AQIA says the worst-case scenario calculation is provided in Attachment G. However, the lack of a clear and consistent emission concentration in the AQIA causes uncertainty regarding the expected performance of the proposed thermal oxidiser.

Further, the flow rates provided are inconsistent throughout the AQIA. The flow rates provided at reference conditions for the proposed thermal oxidiser provided in both Appendices E and G is 19734 Nm³/hr (5.48 m³/s), however, the flow rate provided in Table 5 of the AQIA for inputs into calculated emission rates is 6.71 m³/hr and 5.5 m³/s in Table 8. Flow rates provided in the revised AQIA for Mod3 were 25.16 m³/hr (Table 5) and 25.16 m³/s (Table 8). Similar inconsistencies occur for the existing thermal oxidiser.

Additionally, there have been changes in the AQIA for Mod-4 compared to the revised AQIA provided to the EPA for Mod3. These include the modelling of both thermal oxidisers at the licence limit (existing for TO-1 and proposed for TO-2) of 1 mg/m³ for benzene in the Mod3 AQIA while using the manufacturer calculations in the Mod4 AQIA. The proposed thermal oxidiser stack diameter has also changed while the flow rates remain the same (Appendix E vs Appendix G).

Despite all these inconsistent and unclear emission concentration, parameters and emission rates, the predicted impacts (Tables 9, 10, 11 and 12, Figures F3, F4, F5 and F6) remain exactly the same as presented in the revised AQIA for Mod3. Figure F3 of the predicted impacts remain dated 10/2/2021 which indicates the model has not been updated to reflect changes made as outlined above.

While the predicted impacts are all below the relevant impact assessment criteria and may not materialistically change as a result of the identified emission changes, the AQIA for Mod4 does not provide enough clarity and robustness to evaluate this. Although difficult to ascertain, the information in the AQIA indicates that the impacts of the proposal may need to be remodelled.

In summary this issue could be a result of:

- a) The AQIA providing multiple manufacture emission calculations (Appendix E, Appendix G), without clarity on which calculations are representative of the proposed design; and
- b) Inconsistencies with the emission parameters outlined and adopted within the modelling, particularly given the provision of multiple manufacturer emission calculations (Appendix E, Appendix G).

Recommendation: The EPA recommends the AQIA for Mod-4 include clear and consistent emissions concentrations and parameters and the proponent confirm the emission parameters (concentration, flow rate and emission rates) that were modelled for both the thermal oxidisers.

The EPA recommends that the proponent either confirm that the predicted impacts remain valid or remodel them using the correct and updated emission parameters. This should include modelling existing sources at licence limits, clearly outlining the expected emissions performance of the proposed thermal oxidiser in the main AQIA and correcting inconsistent or incorrect emission parameters.