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Emma Barnet
Senior Environmental Planning & Assessment Officer
Department of Planning, Housing and Infrastructure

Uploaded to the Major Projects Portal

EPA response on EIS for Kiora One Waste and Resource Recovery Facility (SSD-72229458)

Dear Emma

I am writing in response to your request for the NSW Environment Protection Authority (EPA) to provide comment on the Environmental Impact Statement (EIS) for the proposed liquid waste processing facility (SSD-72229458) located at 5 Kiora Crescent, Yennora.

The EPA has reviewed the following documents:

- Environmental Impact Statement prepared by MRA Consulting Group (MRA) on 12 April 2025.
- PFAS Water Treatment Oleology with MyCelx Technology Revision 2 prepared by Oleology Engineering Pol Free Water (Document No. D302).
- Preliminary Hazard Analysis prepared by Riskcon Engineering Pty Ltd on 27 March 2025.
- Noise Impact Assessment version C prepared by RWDI Australia Pty Ltd on 3 April 2025.
- Appendix C Mitigation Measures Table prepared by MRA Consulting Group (MRA) on 12 April 2025.
- Revised Air Quality Impact Assessment version 1 prepared by Northstar Air Quality Pty Ltd on 17 September 2024.
- Environmental Management Plan prepared by MRA Consulting Group (MRA) on 28th March 2025.

The EPA understands the proposal is to:

- Establish a liquid waste processing, de-packaging/product destruction, and transfer of chemical and clinical waste facility that will accept and process up to 220,000 tonnes of material waste per year which would include:
 - 180,000 tpa of liquid waste - waste cooking oil, sewage sludge and residues, PFAS contaminated water, and industrial waste residues.
 - 20,000 tpa of chemical and clinical waste.
 - 20,000 tpa rejected commercial waste.

Based on the information provided, the proposal will require an environment protection licence under sections 43 of the *Protection of the Environment Operations Act 1997* (POEO Act) for Chemical Storage, Resource Recovery, Waste Processing (non-thermal), Waste Storage, clause 9, 34, 41, 42 of Schedule 1 of the POEO Act.

NSW Environment Protection Authority

As the environmental steward and regulator of our State we are committed to a sustainable future. Join us on our mission to protect tomorrow together.

Phone:
131 555

Email:
info@epa.nsw.gov.au

Website:
epa.nsw.gov.au

Visit:
6 Parramatta Square
10 Darcy Street
Parramatta NSW 2150

Mail:
Locked Bag 5022
Parramatta NSW 2124



Please find the EPA's comments and recommendations attached as **Appendix A**.

If you have any questions about this request, please contact Jenny Gustafson via email at environmentprotection.planning@epa.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Jackson', written in a cursive style.

Christie Jackson
Unit Head – Environment Protection Planning
NSW Environment Protection Authority



Appendix A – NSW Environment Protection Authority (EPA) Submission on Environmental Impact Statement (EIS) proposed Kiara One Waste and Resource Recovery Facility (SSD-72229458) at 5 Kiara Crescent, Yennora.

Public Authority Consultation (PAE-83755210) – 9 May 2025

The EPA has the following comments and recommendations:

1. Matters to be addressed prior to determination

Waste

a) Liquid Waste Treatment

The liquid waste facility includes very basic treatment processes such as primary filtration and solids removal via screening, chemical dosing and a DAF prior to disposal of the liquid fraction through a trade waste agreement. The operation of this facility is contingent on the trade waste agreement with Sydney Water.

The capacity of the plant to meet the trade waste agreement has not been assessed as the quality of the proposed wastes to be accepted (upper concentration thresholds) and the terms of the trade waste agreement with Sydney Water have not been specified. Without this information the capacity of the treatment train to achieve the trade waste criteria is not able to be assessed. It will be up to the Applicant to demonstrate to Sydney Water that they can meet the trade waste criteria.

The main issue the EPA will need to manage is the residual solid wastes that will require disposal. As they propose to treat liquid wastes containing PFAS, the solids have the potential to include PFAS at restricted solid or hazardous waste concentrations. The EIS outlines that the solid waste component will be assessed in accordance with the Waste Classification Guidelines and disposed of at a facility that can lawfully accept this waste.

There are reservations about the capacity of the wastewater treatment system to remove all the contaminants of concern prior to disposal to sewer.

b) Storage and Consolidation of Solid and Liquid packaged wastes

A broad range of waste codes are proposed to be accepted at the premises for storage, consolidation and disposal to another facility.

The waste streams include materials that are corrosive, highly acidic or basic, strong oxidisers, flammable, toxic or environmentally hazardous. These waste streams pose a significant risk to human health and the environment if not carefully handled and stored. There are chemical incompatibility risks and fire risks that need to be addressed. The Hazard Analysis identified a fire hazard that extends to the neighbouring property and recommended a fire rated wall be installed to reduce this risk. There is also reference to Australian Standards that will need to be implemented.

It is also noted that chemicals such as PCBs which are subject to a chemical control order are proposed to be accepted. The proponent will need to demonstrate that the requirements of the chemical control order can be met and provide details as to why these environmentally hazardous chemicals cannot be directly disposed of to a facility for destruction.

The proponent will also need to be licensed for the scheduled activity of Environmentally Hazardous Chemicals for wastes that include chemicals listed in any CCO or subject to a restriction or risk management measure in the NSW IChEMS register. For example, PCBs and PFAS.

The proposed storage and consolidation of clinical and related wastes including pathogenic substances, body fluids and parts is not supported. This waste stream should be disposed of to a facility that can treat this waste stream.

The EPA recommends the following:

- The proponent demonstrates how they will meet the requirements of the chemical control orders related to the wastes proposed to be accepted. The proponent should discuss the need to be scheduled as an Environmentally Hazardous Chemicals facility should the proponent wish to accept wastes containing contaminants such as PCBs and PFAS.
- The receipt of clinical and related wastes that include pathogenic substances, body fluids or parts is not supported without justification and additional controls being in place. Clinical and related wastes should be directly disposed of to a treatment and/or destruction facility.

c) Product Destruction

The EPA notes that a product destruction facility will be set up in a separate unit. The materials generated from this process are proposed to be beneficially reused or recycled where possible with residual waste being disposed of to landfill. The product destruction line is a lower risk activity as long as the area where liquid wastes are being handled is bunded as stated. Destruction of flammable materials such as hand sanitiser is not permitted as there are insufficient safety controls included to manage the fire risk.

The EPA recommends the following:

- The proponent note that product destruction of flammable materials is not permitted.
- The proponent note that a resource recovery order and exemption must be in place for any waste materials proposed to be applied to land.

d) Throughput

The EIS states that: *“The site would have capacity for approximately 48h worth of liquid waste (not including liquid waste that is processed and discharged). On average, 20 tonnes (20,000L) of liquid waste will be required to be processed and discharged to sewer each hour, with a small component of solids and sludge removed from filtration that would require collection and disposal offsite. Typically, 80-90% of the liquid waste can be processed to a state suitable for discharge to trade - waste within 2-3 hours, therefore resulting in a quick turnover of material through the plant.”*

The site is very constrained and there are concerns that any breakdown or unexpected contamination identified in the waste stream may halt the process. It is also uncertain how adequate analytical testing and analysis of results can be undertaken in the 2-3 hours specified. There is a risk that non-compliant liquid wastes will be released to sewer.

The EPA recommends the following:

- A waste management plan is to be produced to outline how wastes will be processed in a 2–3-hour timeframe and validation testing undertaken to determine that no contaminants of concern are being released to the sewer.

e) Delivery and Acceptance

The EIS states in section 8.1.3.2.3 *“Upon receipt of any hazardous materials, waste would be accepted or rejected within 21 days of arrival, in this time, any samples, tests or further documentation would be obtained as required from the collection contractor.”* Also *“If required, unknown substances would be sampled and tested in the Unit 2 lab for classification and appropriate storage or notification for removal if not permitted to be received”* and this decision could take 14 days.

Wastes should not be accepted at the premises unless they have been appropriately classified in accordance with the waste classification guidelines to ensure that the site can lawfully accept and treat the waste.

It also states that *“If the waste arrives with a TC that does not match the waste, including quantity or type, the waste may still be accepted however, the EPA would then be notified of any inaccuracies”*. Waste that does not match the Transport Certificate (TC) must be rejected or a new TC generated prior to receipt that accurately reflects the waste being accepted.

The EPA recommends the following:

- Wastes received at the premises must be classified in accordance with the waste classification guidelines. There should be no receipt of “unknown” wastes due to the risk these pose to the operations at the facility. Due to the constraints at the premises there is a high risk of incompatible materials interacting if unknown wastes are received.
- Wastes that arrive at the premises without an accurate transport certificate should not be accepted until the transport certificate is updated to reflect the waste being received.

f) Inconsistencies in EIS

In Table 21 the notes/management column for:

K130 Sewage sludge and residues Source: Domestic and commercial septic systems and Z140 Stormwater & Groundwater. Source: Stormwater pits, drains, sediment ponds & traps, rainwater pumps states:

“Vacuum tankers would pump waste liquid oil through box filters to remove residual fine solids and into a settling tank. Liquids would then go through a second box filter, followed by being stored in a temporary holding tank prior to being pumped into a settling tank. Material is then sent through the DAF, being treated with lime if required and discharged to trade-waste. Sludge from the DAF is transferred to a holding tank to be removed offsite by a licenced contractor”.

These notes are identical to J120 and J100 and appear to be a copy and paste error. It is unclear if waste oil is in K130 and Z140.

The EPA recommends the following:

- The waste table is reviewed, and errors are corrected to ensure the EIS accurately reflects the wastes proposed to be accepted and the processes used to store/process and dispose of these wastes.

g) Fire Containment

Section 8.4.5.7 outlines that *“Building 2 is not sprinklered, but it is provisioned with two hoses, of 20mm diameter which can discharge approximately 20 litres per minute.”* This is the building where flammable materials (100,000 kg) are proposed to be stored.

However, the Preliminary Hazardous Assessment in section 5.8 Release of Flammable Liquid Waste, Ignition and Fire outlines that:

“As decanting may occur, the following recommendation has been made:

- *A dedicated decanting area shall be defined within Unit 2. The area shall have a dedicated extraction system to remove vapours produced during decanting.*

A requirement of the standards and the Work Health and Safety Regulation 2017 (Ref. [5]) is to eliminate ignition sources. Therefore, to confirm that the flammable material storage areas have been assessed as required by the WHS Regulation, the following recommendation has been made:

- *The flammable material storage and handling areas shall be subject to hazardous area classification in accordance with AS/NZS 60079.10.1:2022.*
- *Any electrical equipment to be installed within the defined hazardous areas shall be installed in accordance with AS/NZS 60079.14:2022.*

Notwithstanding the above, in the event of a fire, the building is protected by a sprinkler system, hydrants, hose reels, and extinguishers which can be used to suppress and control a fire.

The inconsistency between the EIS and the Preliminary Hazard Analysis in relation to building sprinklers needs to be addressed.

The EPA recommends the following:

- Clarification as to the presence of building sprinklers needs to be provided. This is a key risk mitigation measure for areas used to store, handle and consolidate flammable materials (Unit 2).

h) Preliminary Hazardous Analysis

A preliminary hazard analysis was required as there is insufficient separation between boundaries for the goods stored. Based on the type of Dangerous Goods to be used and handled at the proposed facility, a Level 2 Assessment was required. Flammable liquids class 3 include up to 100,000 kg and flammable solids up to 20,000kg. This is combination with 20,000 kg of oxidising agents is a significant risk that must be addressed through appropriate controls. The Hazard Analysis includes a series of recommendations.

The EPA recommends the following:

- Bunding to be 110% of the largest tank or 25% of the total volume in each storage area, whichever is greater.
- All processes shall be subject to a Hazard and Operability (HAZOP) study to ensure sufficient protections against deviated processing conditions.
- Ensure the storage area complies with AS 3780:2023 to minimize the risk of incompatible chemicals interacting.
- The water treatment chemicals storage area in the liquid processing building shall be subject to a design assessment against AS 3780:2023.
- The acid and base storage areas shall be clearly signed and delineated.
- The Dangerous Goods stores in Unit 2 shall be subject to a design assessment in accordance with AS 3833:2024.
- A dedicated decanting area shall be defined within Unit 2, with a dedicated extraction system to remove vapours produced during decanting.

- The flammable material storage and handling areas shall be subject to hazardous area classification in accordance with AS/NZS 60079.10.1:2022.
- Any electrical equipment installed within the defined hazardous areas shall comply with AS/NZS 60079.14:2022.
- The walls of the Class 3 storage shall be constructed of concrete with a Fire Resistance Level of 240/240/240.
- The site must be capable of containing potentially contaminated water for the worst-case credible fire scenario within the site boundaries.
- Unit 2 must have an automated fire sprinkler system.

2. Matters to be addressed with conditions

Noise

The EPA has reviewed the Noise Impact Assessment (NIA) and determined that the predicted noise levels from the premises at the residences are below the Project Specific Noise Levels (in accordance with the Noise Policy for Industry, EPA 2017) and below the background noise levels.

The EPA recommends the following conditions for consideration should the project be approved:

Noise Limit Conditions

1. Noise generated at the premises must not exceed the noise limits at the times and locations in the table below. The locations referred to in the table below are indicated by Kiora One Recycling Noise Impact Assessment (RWDI Australia Pty Ltd 3 April 2025).

Location	Noise Limits in dB(A)			
	Day	Evening	Night	Night
	L _{Aeq} (15 minute)	L _{Aeq} (15 minute)	L _{Aeq} (15 minute)	L _{AFmax}
85 Railway Street, Yennora	47	43	38	53

2. For the purposes of condition 1:
 - a) Day means the period from 7am to 6pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays.
 - b) Evening means the period from 6pm to 10pm.
 - c) Night means the period from 10 pm to 7 am (Monday to Saturday), and 10 pm to 8 am Sunday and public holidays.

3. Noise-enhancing meteorological conditions

- a) The noise limits set out in condition 1 apply under the following meteorological conditions:

Assessment Period	Meteorological Conditions
Day	Stability Categories A, B, C and D with wind speeds up to and including 3m/s at 10m above ground level.
Evening	Stability Categories A, B, C and D with wind speeds up to and including 3m/s at 10m above ground level.
Night	Stability Categories A, B, C and D with wind speeds up to and including 3m/s at 10m above ground level; or Stability category E and F with wind speeds up to and including 2m/s at 10m above ground level.

- b) For those meteorological conditions not referred to in condition 3(a), the noise limits that apply are the noise limits in condition 1 plus 5dB.
4. For the purposes of condition 3:
- a) The meteorological conditions are to be determined from meteorological data obtained from the meteorological weather station identified as **Bureau of Meteorology AWS at Bankstown Airport**.
 - b) Stability category shall be determined using the following method from Fact Sheet D of the *Noise Policy for Industry* (NSW EPA, 2017):
 - i. Use of sigma-theta data (section D1.4).

Hours of Construction

- 5. All construction work at the premises must be conducted between 7am and 6pm Monday to Friday and between 8am and 1pm Saturdays and at no time on Sundays and public holidays, unless inaudible at any residential premises.

Air Quality

The EPA reviewed the Air Quality Impact Assessment (AQIA) (Northstar, 17 September 2024) for the proposed waste facility and recommends the following conditions for consideration should the project be approved:

- a) The site is limited to processing a maximum of 220,000 tonnes per annum of waste.
- b) The facility must be designed and constructed so as not to preclude the retrofit of air pollution and odour controls at the premises.
- c) All operations and activities occurring at the premises must be carried out in a manner that prevents or minimises the emission of air pollutants from the premises.
- d) The premises must be maintained in a manner that prevents or minimises the emission of air pollutants.
- e) All activities occurring onsite must occur within the enclosed building.
- f) The licensee must not cause or permit the emission of offensive odour beyond the boundary of the premises.

Air Quality Management Plan

An air quality and odour management plan to be developed and implemented prior to the commencement of any activities associated air emissions at the premise.

The air quality and odour management plan must include as a minimum:

- i. Risk assessment.
- ii. Proactive and reactive mitigation measures of all significant, and potentially significant, emissions sources.
- iii. Key performance indicator(s).
- iv. Monitoring method(s).
- v. Location, frequency and duration of monitoring.
- vi. Record keeping.
- vii. Response mechanisms and contingency measures; and
- viii. Responsibilities.
- ix. Compliance reporting.

3. Minor matters

Greenhouse Gas Assessment

The EPA notes that the EIS did not include information regarding greenhouse emissions. Whilst the proposal will include greenhouse gas emissions sources, it is unlikely that the project will result in more than 25,000 tonnes per annum of CO₂-e in a calendar year. Therefore, the EPA believes that

the project is not likely to trigger the assessment requirements in the NSW EPA Guide for Large Emitters (large emitters guideline).

The EPA has started to adopt the principles in the large emitters guideline. To reduce the risk of delays in the assessment stages of future applications or modifications, the Applicant should provide greenhouse gas estimates and ensure consistency with the principles in the most recent version of the large emitters guideline. If the Applicant considers that certain requirements of the large emitters guideline are not applicable, this can be specified. However, supporting evidence and justification must be provided.