



**FRECKLINGTON PLANNING ON BEHALF OF
ANNIE CANNON BROOKS**

OBJECT

Submission ID: E44

Organisation: <i>Frecklington Planning</i>	Key issues:
Location: <i>New South Wales</i>	
Attachment: <i>Attached</i>	

Submission date: 08/12/2024

Dear IPCN,

Please find attached an addendum submission from Frecklington Planning on behalf of Annie Cannon-Brookes.

This contains the third of three reports (**Report 3**) by Synergetics Consulting Engineers, leading global experts in emissions control, who have undertaken a peer review of the EIS.

This is the final piece of our submission and is to be read in conjunction with our original submission and first two (2) reports by Synergetics on the Likelihood of a fire (**Report 1**) and Consequences of a fire (**Report 2**).

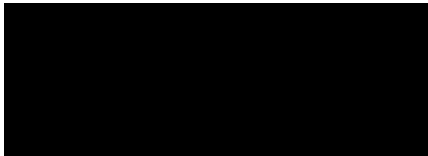
Many thanks,

Pip Frecklington

Philippa Frecklington

BTP (Hons 1), MPIA

Managing Partner



**Frecklington
Planning**

Independent Planning Commission of NSW

06 December 2024

ADDENDUM SUBMISSION – OBJECTION

RE: Ref: SSD-9409987
Proposal: Moss Vale Plastics Recycling Facility (Plasrefine) Proposal

Dear Commissioners,

This addendum submission is to be read in conjunction with my original submission on behalf of Annie Cannon-Brookes.

Attached at **Annexure A** is the third of three (3) reports prepared by leading global experts in emissions control, *Synergetics Consulting Engineers*. This Report comprises a review of the Plasrefine EIS. The first two (2) reports dealt with the *likelihood of a fire* (Report 1) and *consequences of a fire* (Report 2) at the proposed Plasrefine facility.

In **Report 3**, *Synergetics* found that the EIS (GHD 2022) fails to satisfy the assessment criteria in several important respects. Specifically, the EIS does not:

- represent a technically robust assessment of the impacts associated with the project DPIE (2022 p4);
- reflect community views DPIE (2022 p4) in their responses; or
- appropriately apply the precautionary principle as described in the Plastic Reduction and Circular Economy Act (NSW 2021 Clause 5).

Furthermore, even though concerns about impacts of the proposed facility on the environment, health, safety and amenity of their local community were raised early in the process, these community views have not been effectively addressed in the EIS as evidenced by virtually 100% of the 2868 submission received in October 2024 further objecting to the approval of the facility.

On this basis, the application should be **REFUSED**.

Thank you for your time in considering this submission.

Kind regards,



Philippa Frecklington BTP (Hons 1), MPIA

Managing Partner | Frecklington Planning



ANNEXURES

A. Report 3: *Review of the Plasrefine Facility EIS at 74-76 Beaconsfield Road, Moss Vale, prepared by Dr David Collins and Dr James Brett - Synergetics, dated 05 Dec 2024.*

SYNERGETICS ENGINEERS

Dr David Hayden Collins – Principal Environmental Engineer

BE (Hons) Mech (UNSW), MBA (Melb), PhD (Melb), (Civil and Env), FIEAust (211801), CPEng, NER, APEC Engineer, IntPE(Aus), FAIE, CIH (3358), MAIOH, RPEQ (21868), RPEV (PE0001753), NATA Assessor (A019905)

Dr James Brett – _Principal Modelling Engineer

BE(Hons)/BSc, MEngSc, PhD

SYNERGETICS

5 December 2024
Philippa Frecklington
[REDACTED]

Dear Philippa,

RE: Additional observations and comments regarding the Moss Vale Plasrefine facility EIS

Introduction

This report follows two previous reports from Synergetics, the first dated 25 November 2024 addressing the likelihood of a fire at the proposed facility, and the second dated Friday 29 November 2024 addressing the consequences of a fire at the proposed facility.

In this report we have assessed the quality of the EIS (GHD, 2022) against relevant NSW government assessment criteria.

Assessment

SEARS (undated) broadly defines the requirements that any Environmental Impact Statement (EIS) must meet, the minimum form and content requirements as prescribed by Part 8 of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation) and the State Significant Development Guidelines. Relevant policies and guidelines can be found at:

<https://www.planningportal.nsw.gov.au/majorprojects/assessment/policies-and-guidelines>.

DPIE (2022 p4) define criteria that specifically apply to State Significant Infrastructure and “*seek to ensure that the EISs submitted to the Department for all State significant infrastructure (SSI) projects are consistent and prepared to a high standard*”, and specifically that they:

- *are as succinct as possible and easy to understand*
- *clearly describe the project*
- *reflect community views*
- *contain a technically robust assessment of the impacts of the project*
- *justify and evaluate the project as a whole, having regard to the economic, environmental and social impacts of the project and the principles of ecologically sustainable development.*

In addition, the Plastic Reduction and Circular Economy Act NSW 2021 (NSW 2021 Clause 5): makes particular reference to the precautionary principle, defined as: *If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.*

Key statements from the EIS were assessed against the criteria and are summarised in Appendix A.

Conclusions

It was found that the EIS (GHD 2022) fails to satisfy the assessment criteria in several important respects. Specifically, the EIS does not:

- represent a technically robust assessment of the impacts associated with the project DPIE (2022 p4);
- reflect community views DPIE (2022 p4) in their responses; or

- appropriately apply the precautionary principle as described in the Plastic Reduction and Circular Economy Act (NSW 2021 Clause 5).

Even though concerns about impacts of the proposed facility on the environment, health, safety and amenity of their local community were raised early in the process, these community views were not effectively addressed in the EIS as evidenced by virtually 100% of the 2868 submission received in October 2024⁴ objecting to the approval of the facility.

References

Abbasi, S and Turner, A 2021 Dry and wet deposition of microplastics in a semi-arid region (Shiraz, Iran), DO - 10.1016/j.scitotenv.2021.147358, JO - Science of The Total Environment

CA GOV 2024, <https://oag.ca.gov/news/press-releases/attorney-general-bonta-sues-exxonmobil-deceiving-public-recyclability-plastic>

Campen M, Nihart A, Garcia M, Liu R, Olewine M, Castillo E, Bleske B, Scott J, Howard T, Gonzalez-Estrella J, Adolphi N, Gallego D, El Hayek E, 2024, Bioaccumulation of Microplastics in Decedent Human Brains Assessed by Pyrolysis Gas Chromatography-Mass Spectrometry, 6 May 2024, Preprint, <https://pmc.ncbi.nlm.nih.gov/articles/PMC11100893/>

DPIE 2022, State significant development guidelines – preparing an environmental impact statement, Appendix B to the state significant development guidelines, July 2022 dpi.e.nsw.gov.au, accessed 20 November 2024.

Garcia JM, Robertson ML 2017, The future of plastics recycling, Science, Vol. 358, 17 Nov 2017

GHD 2022, Appendix A Updated proposal description, GHD, Melbourne.

NAS 2022, National Academies of Sciences, Engineering, and Medicine; Division on Earth and Life Studies; Board on Chemical Sciences and Technology; Committee on the Chemistry of Urban Wildfires. The Chemistry of Fires at the Wildland-Urban Interface. Washington (DC): National Academies Press (US); 2022 Sep 15. 5, Water and Soil Contamination. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK588645/>

NSW 2021, Plastic Reduction and Circular Economy Act 2021 No 31

Piper J 2024, Outraged that some plastic you send for recycling ends up being burned? Don't be, The Guardian UK, 4 October 2024

SEARS (undated) Planning Secretary's Environmental Assessment Requirements (for) Development within identified sites and precincts, accessed 20 November 2024, <https://www.planning.nsw.gov.au/sites/default/files/2023-03/sears-development-within-identified-sites-and-precincts.pdf>

Viridor 2024a, <https://www.viridor.co.uk/our-ambition/circular-economy/>

Viridor 2024b, <https://www.viridor.co.uk/polymers/plastics-polymer-recycling/avonmouth-resource-recovery-centre/>

Waste360, 2024a, <https://www.waste360.com/waste-recycling/florida-county-ends-curbside-recycling-due-to-rising-costs-contamination>, 13 September 2024

Waste360, 2024b, <https://www.waste360.com/waste-recycling/viridor-preparing-to-close-317m-recycling-facility-after-two-years-of-operations>, 7 November 2024

Appendix A. Assessment of the EIS for the proposed Plasrefine facility against relevant criteria

Requirement	Synergetics concerns
<p>A. a technically robust assessment of the impacts of the project.</p>	<p>The information submitted in the EIS, has not provided “...a technically robust assessment of the impacts of the project”:</p> <ol style="list-style-type: none"> <li data-bbox="728 646 1944 1013"> <p>GHD, (2022, A-1-2) states that the process will include “...localised capture of emissions from individual processing units...”. No independent data has been supplied to support this claim. Furthermore, as detailed in the previous report from Synergetics dated 25 November 2024 addressing the likelihood of a fire at the proposed facility, this statement is not supported by the information contained within the EIS or referenced. None of the supplied photos, and none of the available online photos and videos, of the nominated processing units show evidence of or provision for any extraction hoods. As a case in point, photos on GHD 2022, page A19, shown below, and the proponent’s website https://www.plasrefine.com/technology/, are not fitted with any ventilation capture hoods, extraction ducting, or emission control systems.</p>



2. GHD, (2022, A-1-2) also states that “...emissions ventilated to emission control systems for treatment prior to discharge.” Standard practice¹ for compliant impact assessments is for accredited technical reports to be supplied to support the performance claims of emission control systems. No independent data has been supplied to support the EIS claims that either the “...emissions (will be) ventilated to emission control systems...”, or that there will be adequate “... treatment prior to discharge”, or that the health of people and environment will be protected.
3. GHD, (2022, A-1-2) “design of the concept site layout to enable all waste delivery trucks to queue entirely within the site (avoid any queuing on Braddon Road)” will increase the mass of waste

¹ The NSW EPA requires that licensees and other persons regulated by the EPA are responsible for ensuring the laboratories and consultants they use for sampling and analysis of water and air pollutants are accredited ... by the National Association of Testing Authorities (NATA) or another equivalent accreditation body, and comply with the Approved Methods. See <https://yoursay.epa.nsw.gov.au/approved-methods>. Synergetics have completed hundreds of EISs, and observe that all Australian States and Territories require verifiable technical evidence to support claims of technology performance and emissions in EISs, or that the health of people and environment will be protected.

	<p>plastic held on site, and this waste will be in closer proximity to adjacent fire prone land that may be a source of ignition during a bushfire, hence increasing the flammable material inventory.</p> <p>4. GHD, (2022, A-1-2) states that “...enclosure of the wastewater treatment plant and placement on the site to minimise potential for noise or odour”. The proposed enclosure control will need to be well sealed to prevent it being bypassed. This is not mentioned. In addition, it will be necessary for the enclosure to be maintained at sufficient negative pressure to minimise the risk of leakage under all reasonable wind conditions and with multiple door open at times during operations. Furthermore, the EIS does not refer to the need for ventilation air to be filtered to remove odorous and hazardous substances.</p> <p>5. The EIS refers to the use of “Gross pollution traps” etc (GHD, 2022, A-1-2)² for control of solids in the stormwater, but the proposed filter train have not been identified and no evidence has been provided to support their claims that the “water quality treatment train” is capable of removing suspended ultrafine MNPs.</p> <p>6. The human and environmental exposure and health impacts of micro and nano plastics (MNPs) were not mentioned in the EIS, hence the EIS does not contain a “contain a technically robust assessment” of the MNPs.</p> <p>7. GHD, (2022, A-1-3) makes the following statement regarding the purpose of the proposed facility: “A facility to recycle and reprocess mixed plastic waste that would otherwise be landfilled.” Nowhere does the EIS convincingly describe or demonstrate with evidence how the facility will achieve this objective. They do not explain where they will be obtaining their waste</p>
--	--

² “...a water quality treatment train including gross pollutant traps for primary treatment of runoff from impervious ground surfaces, lined storage basins for rainwater tank overflow and gross pollutant trap outflow and a bioretention filter basin and swale immediately downstream of storage basins to ensure all water discharged off-site would have a neutral or beneficial effect on water quality”.

	<p>from and what arrangements and contracts and contract conditions will be put in place, and measures that they will take to enforce these conditions to ensure security of supply, and security of quality.</p> <p>8. The EIS includes a statement that “<i>...all water discharged off-site would have a neutral or beneficial effect on water quality</i>”. A practical reality is that because the harmful levels of MNPs have not yet been established, this statement that cannot be supported.</p> <p>9. (GHD, 2022, A-1-2) states that: “<i>...enclosure of all plastic waste receipt, recycling, reprocessing and storage within buildings with automatic fast opening and closing doors to minimise the potential for noise impacts and prevent waste materials from entering the environment.</i>” These controls are insufficient to³: “<i>prevent waste materials from entering the environment</i>”.</p> <p>10. GHD, (2022, A-1-2) “<i>...design of the concept site layout to enable the main doors where waste delivery trucks would enter and exit to be placed on the western side of the building, facing away from the nearest sensitive receiver</i>”, is a desirable but not sufficient requirement to ensure compliance with NSW EPA Industrial Noise Regulations defined by the Noise Policy for Industry (NSW EPA 2017) at all times. Given that it will be necessary for doors to remain open for hours each day, acoustically treated tunnels at each door would be desirable. Careful selection of plant, equipment and building materials will also be needed to reduce noise emissions and vibration</p>
--	--

³ All gaps in the building envelope including exhaust fans, skylights, vents, air inlet grills, etc of any building containing waste or equipment contaminated by waste, such as maintenance workshops, would also need to be designed, constructed and maintained to be well sealed to enable extraction air filtration system to maintain negative pressure under all wind speeds and directions sufficient to achieve a negative pressure over the entire building envelope sufficient to prevent escape of air and any contamination from the interior of the building. Engineering controls including comprehensive monitoring and maximum opening time limits and maximum number of doors open at any time will need to be implemented. .

	<p>and enable the proposal to meet a strict operational noise criterion. None of these details have been provided.</p> <ol style="list-style-type: none">11. GHD, (2022, A-1-3) <i>“Processing capacity - Up to 120,000 tonnes per year”</i>. (GHD, 2022, A-1-2). Short term rate limits, i.e., maximum number of trucks per day, would help prevent overloading the assimilative capacities of supporting systems and assure a satisfactory quality of life for the surrounding community.12. GHD, (2022, A-1-3) Similarly, maximum limits for all other activities that will impact on the local community need to be set, e.g.: <i>“20,000 tonnes of polyvinyl chloride (PVC) and soft plastics, feedstock material stored at any one time; 2.5 kilolitres per day of sewage for disposal to sewer via a new sewer connection; energy consumption of 8,500 kWh,”</i> and does this include all energy inputs?; <i>“about 10,000 tonnes per year of residual waste for disposal to landfill; about 9,000 tonnes per year of dewatered sludge filter cake residue from the wastewater treatment plant for further processing into products, or otherwise disposal to landfill; about 1,800 tonnes per year of filter residue and waste filters from the extrusion and granulation process for disposal to landfill”</i>; etc.13. GHD, (2022, A-1-3) <i>“Process residues would also be temporarily stored in Building 1 before being removed off-site for disposal.”</i> What are the expected chemical and physical composition of the residues? What are the expected quantities? These details are critical to <i>“...a technically robust assessment of the impacts of the project”</i>, yet none have been supplied.14. GHD, (2022, A-2-2) <i>Building 2 would be used for reprocessing of the flakes and pellets (produced in Building 1) into more advanced products as well as storage of finished products.</i> Of particular concern are the potential for hazardous wastes or processes and associated emissions from advanced products.
--	---

B. Reflect community views.	<p>The criteria to “reflect community views”, has not been addressed by the EIS:</p> <ol style="list-style-type: none">1. Many of the community responses⁴ to the EIS expressed concerns about the potential for adverse human and environmental health impacts related to micro and nano plastics (MNP) exposure in the air, in surface water and in sewerage, yet the human and environmental health impacts of micro and nano plastics have not been addressed in the EIS.2. To <i>reflect community views</i> the proposed facility must include a broadly representative and effective community engagement process, including monitoring, advisory and communication roles, throughout construction and operation of the facility. Regular NATA accredited sampling and analysis reports, with consultation with Council and EPA specialists as required would represent best practice. None of this has been documented in the EIS.3. The overwhelming view of the community well in advance of the EIS⁵ was that the remote, quiet, and predominantly rural and agricultural community of Moss Vale was not the correct site for a facility to process waste trucked in from Sydney, but were not reflected in the EIS.4. The proponent seems to lack a capacity for self-reflection in the face of the overwhelming objections. Nowhere in the EIS does the proponent recognise and reflect on the legacy of the difficulties and disasters⁶ that past recycling attempts have experienced across Australia, many of which were operated by owners with deep experience and large investment capacity. In contrast, there no evidence provided in the EIS to enable the community to verify the
-----------------------------	--

⁴ 100% of a random sample of 50 of the 2868 public submissions listed on the <https://www.ipcn.nsw.gov.au/cases/2024/10/moss-vale-plastics-recycling-facility>, did not support the submission.

⁵ E.g., <https://plasrefine.com/news/detail/10/>

⁶ <https://theconversation.com/redcycles-collapse-is-more-proof-that-plastic-recycling-is-a-broken-system-194528>

	<p>proponent’s level of experience or their access to expertise and finance to address problems that arise.</p> <p>5. Consequently, an assurance that the facility and its operations will comply with particular technical standards or that the details will be provided after approval lacks credibility.</p>
<p>C. Precautionary principle⁷</p>	<p>While toxicological evidence of MNPs is still emerging, the available data is extremely concerning⁸. Consistent with the precautionary principal, lack of full scientific certainty should not postpone measures to reduce MNP exposure, and hence the facility should include verifiable evidence that the highest standards of water, sewerage and air controls will be present to prevent the release of MNPs from the facility.</p>

⁷ If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (Plastic Reduction and Circular Economy Act NSW 2021 Clause 5).

⁸ The human and environmental toxicology of MNP is still emerging, but recent findings (Campen et al 2024) reported in May 2024 is of considerable concern, with MNP measured in many samples of human tissue with substantial increase between 2016 and 2024. Polyethylene was preferentially accumulated in the brain. This emerging data suggesting global and ubiquitous contamination of human receptors provides cause for grave concern: *“Autopsy samples from the Office of the Medical Investigator in Albuquerque, NM, collected in 2016 and in 2024, were digested for Py-GC/MS analysis of 12 polymers. Brains exhibited higher concentrations of MNPs than liver or kidney samples. All (human) organs (tested) exhibited significant increases from 2016 to 2024. Polyethylene was the predominant polymer; the relative proportion of polyethylene MNPs was greater in brain samples than in liver or kidney. Transmission electron microscopy verified the nanoscale nature of isolated particles, which largely appeared to be aged, shard-like plastics remnants across a wide range of sizes. Results demonstrate that MNPs are selectively accumulated into the human brain and concentrations are rising over time.”*