New South Wales Government
Independent Planning Commission

DEBORAH RICHARDS	**OBJECT**	Submission ID: e36
Organisation: *N/A*	Key issues: *N/A*	
Location: *N/A*		
Attachment: *Attached overleaf*		

Submission date: 11/26/2024 4:42:00 PM

See attached

Submission opposing the development of the Plasrefine factory at MossVale, NSW
Deborah Richards:
[redacted]

OBJECTIONS:

1. **Unreliable operator**

I undertook the original research on this company and its proposed operator after the proposal had been lodged with NSW Planning and declared a State Significant Project. The proposal described the operator '[redacted]' as very experienced in the recycling sector.

This is bogus.

[redacted]

This is a major and significant project proposal. Waste plastic poses a significant challenge, and adds to the pressure to approve this proposal.
However, the public needs to be assured that the operator has good bonafides and will operate the factory responsibly.
[redacted]

2. Micro-plastics risk

There are two possible sources of micro plastics entering the environment from this factory:

A. airborne.

Opening and closing the doors multiple times a day is an inadequate safeguard.
We are talking about trucks entering and leaving 24 x 7.
There will be wind, dust and micro plastics unable to be contained.

2. Water effluent contamination.

In my view this is most serious.
1,000L a day of waste from washed plastics will be emptied into the sewer. Contrary to the proponent's claim 'this is not very much', it is seven tankfuls of water a week- that adds to hundreds of tanks a year.

How many micro plastics are in this waste water?

75billion plastic particles in each cubic metre were found when scientists undertook world-first research into waste water from plastics recycling last year... reported in this article: https://www.theguardian.com/environment/2023/may/23/recycling-can-release-huge-quantities-of-microplastics-study-finds#:~:text=An%20international%20team%20of%20scientists,13%25%20of%20the%20plastic%20processed.

The waste water from Plasrefine would drain into Sydney Water Catchment.

Can these micro plastics be removed from the water?

A. Filtration

Microplastics have different sizes- right down to nano-particles. These are a particular threat to human health due to being able to pass from the external environment into body tissues.
I spoke with Erina Brown, the lead scientist who undertook the research cited above. The plastics plant studied used the same process that Plasrefine intends to use.
She confirmed that nanoparticles can technically be filtered out of the water- but to filter out particles less than 5mu in size is prohibitively expensive.

B. Flocculation

I note the submission lodged by Dr Mark Bowman, Technical Director of Contamination at GHD- the engineers engaged by Plasrefine to guide this proposal through the planning process.
Dr Bowman's claim that a Dissolved Air Flotation plant is "effective in removing micro plastics from water..." is untrue- as this research unequivocally shows:

> *Removal of Microplastics from Waters through Agglomeration...:*
> https://www.mdpi.com/2073-4441/13/5/675#:~:text=An%20easier%20method%20could%20be,removal%20using%20DAF%20%5B20%5D
> Excerpt:
> "Different studies showed insufficient removal efficiencies of micro plastics. Even in combination with flocculants and surface modifiers Wang et. Al. 2020 could only reach values between 68.9% and 43.8% for micro plastic removal using DAF."

Almost no claim made by GHD or the proponents seems to be reliable.

Why are micro plastics so dangerous?

The impact of microplastics on human health is a research frontier just being discovered.
They are very serious:

Cf this research on the development of autism in males-

> https://florey.edu.au/news/2024/08/florey-research-finds-association-between-prenatal-exposure-to-plastics-and-autism-in-boys/#:~:text=Florey%20research%20finds%20association%20between%20prenatal%20exposure%20to%20plastics%20and%20autism%20in%20boys,-

More%20information&text=Higher%20levels%20of%20bisphenol%20A,later%20found%20to%20have%20autism

And this report on research showing micro plastics in brain tissue and other organs of the body:
https://www.theguardian.com/environment/article/2024/aug/21/microplastics-brain-pollution-health

The effluent of 1,000L every day from Plasrefine discharged into the sewer ultimately drains into Sydney's water catchment.

3.Limits to regulation and monitoring

Q: Can the public relax if this this project is given consent subject to strict Conditions?
A: No.

My experience visiting waste and recycling plants across NSW for an ABC Four Corners investigation suggests that self-monitoring and self reporting and oversight by the EPA is severely limited.
The EPA field inspection teams are limited in number and resources and rarely make site visits to do independent testing, while self-monitoring can unfortunately become a 'tick box' exercise.

4. Contamination:

The Plasrefine proposal plans to take in plastic waste so contaminated China has banned it.
It is often rat infested.
It is fire prone
And my concern about the water effluent is further increased by the number of potential toxins from plastics that are not tested for, and therefore not discoverable, draining into the water catchment.
These include:

- Benzene
- PFAS
- Carcinogens
- Dioxin
- Endocrine disruptors
- Bisphenol A
- Polybrominated diphenyl ethers
- Phthalates

It is unthinkable this could be allowed

5.Proximity

The Plasrefine site is unsuitable for the following reasons:

- Very poor access to the site, meaning fire response would be severely hampered;
- Proximity to schools and residences;
- -impact on the essential and sensitive work of the Garvan Institute.
- This industry is contrary to the express vision for Hi Tech development in the SHIP developed by Wingecarribbe Shire Council for the future of the community's enterprises and business.