

BEFORE THE HEARING COMMITTEE

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of an application by Bio Plant Manawatu NZ Limited to the Manawatū-Whanganui Regional Council for application **APP-2020203133.00** for the discharge of contaminants and odour to air from a pyrolysis plant at 247 Kawakawa Road, Feilding

REPORT TO THE COMMISSIONERS

MR MARK ST CLAIR (CHAIR) AND MS JENNY SIMPSON

SUPPLEMENTARY SECTION 42A REPORT OF MAREE ELLEN PATTERSON WATER QUALITY

16 January 2023

A. INTRODUCTION

Qualification and Experience

1. My name is Maree Ellen Patterson.
2. I am employed by the Manawatū-Whanganui Regional Council (trading as Horizons Regional Council, HRC) as a Senior Environmental Scientist – Water Quality. I have worked for the Council since May 2004. I hold a Masters in Applied Science (Natural Resource Management), Post Graduate Diploma in Arts (Geographic Information Systems) obtained from Massey University and a Bachelor of Science (Geography) degree obtained from the University of Canterbury. I have fifteen years post-graduate experience in the field of fresh water quality.
3. In my duties as the Council’s Senior Environmental Scientist – Water Quality, there are several key components of my job including:
 - a. Being one of the technical leads in the implementation of the National Policy Statement Freshwater Management;
 - b. managing a variety of water quality research projects;
 - c. providing technical advice for consents and compliance;
 - d. undertaking reporting on the state of the environment in relation to freshwater; and
 - e. I have previously lead the state of the environment physico-chemical monitoring for freshwater and discharges.
4. I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. My evidence has been prepared in compliance with that code. In particular, unless I state otherwise, the evidence is within my sphere of expertise, and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

B. SCOPE OF REPORT

5. The Panel Minute No. 10 dated 27 October 2022, set out a timeline for further responses from various parties to the further information provided by the Applicant. This included a requirement that:

“Council Officers (Section 42A technical officer’s effects on air, water and land) provide a written response to the new technical information and any matter raised by the submitters”

6. The evidence sets out my response as requested by the Commissioners, and is divided into two main sections:
 - a. Comment on the new technical information provided by the Applicant; and
 - b. Comment on matters raised by Submitters.
7. I have then provided some overall comments, including a conclusion and recommendations.
8. For my statement, I refer to the supplementary evidence (dated 16 January 2023) from Mr Andrew Curtis, Pattle Delamore Partners Ltd (PDP), who has been contracted as Horizons Regional Council’s Consultant Air Quality expert.
9. In this evidence, Mr Curtis provides a technical assessment of the updated information in relation to air quality effects of the Bio Plant Manawatu Ltd (BPMNZ) proposal to establish and run a renewable energy facility located at 247 Kawakawa Road, Feilding.
10. My brief is to provide a statement on the potential impact the emissions to air from the plant may have on surrounding waterbodies.

C. REVIEW OF NEW TECHNICAL INFORMATION

Mr Curtis

11. In his evidence Mr Curtis concludes that he is unable to confirm that there will be no air quality effects associated with discharges from the proposal. In particular he discusses a lack of key pieces of information and unclear or inconsistent information where it does exist. Subsequently, with no information about the possible discharges to surrounding waterbodies, I am unable to assess whether the proposed discharge to air will have an impact on these water bodies.

Mr Frenz

12. In his evidence Mr Frenz lists a number of management plans that will be supplied to council prior to commissioning the plant. In my opinion, it would be useful to have a stormwater management plan included in this list. It is common for such a plan to identify the location of hazardous

substances and the steps in place to stop such substances entering the stormwater system, a spill procedure and maintenance regime for the stormwater system to ensure it continues to operate as expected.

Dr Ibrahim

13. In his evidence Dr Ibrahim identifies a number of sources of wastewater that will be directed to an in-house wastewater treatment system. He further goes on to say in section 2.17 that *“The on-site wastewater treatment plant ensures that all wastewater and leachate generated in the Bioplant facility are fully treated and there is no discharge to the surrounding land”*. There is no information on the volume, quality or fate of this fully treated water. It is possible it will be reused within the plant or as previously stated by the Applicant be discharged to the Feilding Wastewater Treatment Plant (WWTP). There is no design for the onsite WWTP, or its likely outputs, and as such I am unable to comment upon the likely contaminants, their concentrations, or their potential effects at this stage.

D. SUBMITTER EVIDENCE

I have read all of the supplementary submitter evidence. In many cases the evidence raises issues outside my area of expertise. Consequently while I acknowledge all of the submissions and their content, I have only set out in this section, comments on unique issues raised by submitters that are relevant to my area of expertise.

14. The majority of concern from submissions within my sphere of expertise is related to the discharge of toxic water as a by-product of the process. There is limited detail of the proposed wastewater treatment plant and what it will achieve or how the recycling of the wastewater in the plant will work. Currently there no application for a discharge to water from the Applicant.
15. It is my understanding that the Applicant proposes for any discharge of stormwater from the site to meet the permitted activity standards. In order to meet the water quality aspects of the permitted activity standards any stormwater discharge *“must not cause, after reasonable mixing*, any of the following effects^ in the receiving water body^:*
 - i. *the production of conspicuous [oil*](#) or grease films, scums or foams, or floatable or suspended materials*
 - ii. *any conspicuous change in the colour or visual clarity of the receiving water^*
 - iii. *any emission of objectionable odour*
 - iv. *the rendering of fresh water^ unsuitable for consumption by farm animals*

v. *toxicity to aquatic ecosystems.*”

16. There is currently no design or stormwater management plan for the site, and so I am unable to assess the likelihood of the site discharges meeting these permitted activity standards.
17. It is my understanding that any wastewater that is not reutilised within the plant will be sent to the Feilding WWTP. This being the case it would be up to the staff at the District Council to undertake due diligence to ensure that any trade waste accepted by them would not compromise the ability of the WWTP to meet the conditions of its current consent. Whilst it is outside of scope to consider the effects on the WWTP’s ability to treat the wastewater these consents will include conditions with relation to no adverse effects on the environment including the Section 107 effects from the RMA, receiving and discharge water quality standards that must be met.

Ellen Thompson

18. Ms Thompson in Paragraph 1.2 of her evidence, suggests soil and water sampling be undertaken. Notwithstanding the issues Mr Curtis discusses in his evidence in respect of information gaps and inconsistencies that remain in the application, I consider there to be merit in this type of monitoring and repeated sampling as discussed by Mr Curtis in his supplementary evidence paragraph 73. If this was something the Panel saw merit in, an adaptive monitoring programme could be developed and then implemented for this site.
19. Such sampling would need to commence during the proposed baseline monitoring period, for at least 3 years following establishment of the plant and then for a year every five years to ensure no unforeseen effects occurring as a result of the plant. To ensure it is meaningful, it is my opinion that any consent condition related to this would also need to include compliance limits or change limits and trigger action on the behalf of the Applicant to increase monitoring, identify and remedy the source of contaminants etc. The detail of what would be monitored and where, would need to be determined once there was enough information to assess the potential effects of the activity. It would be useful to include any discharges of stormwater in this assessment, however, given there hasn’t been an application to discharge stormwater I am unsure of the planning mechanism to include this.

E. SUMMARY AND RECOMMENDATION

20. I have reviewed the additional evidence provided by the Applicant and the assessment of the evidence conducted by Mr Curtis and the submitter’s evidence. In summary I consider that:

- a. I am unable to assess the effect of the discharge to air on water quality at this stage as I need Mr Curtis to be able to complete his assessment before I can complete mine.
 - b. Although the Applicant has previously stated that stormwater will meet permitted activity and leachate will be discharged to the Feilding WWTP, there is limited information about the management of stormwater and wastewater from the site.
 - c. Should the application be granted, additional conditions requiring soil and water monitoring should be included.
21. In considering the further information provided by the Applicant and the assessment by Mr Curtis, I do not consider that there is sufficient information to allow me to assess the potential water quality effects nor consider the need for a discharge to water consent associated with the discharge to air. Therefore, from a technical perspective, I am unable to support the granting of an air discharge consent on the basis of the information that has been presented to date.

DATED this 16 day of January 2023

Maree Patterson
SENIOR SCIENTIST – WATER QUALITY