



memorandum

TO Bryony Huirua FROM Andrew Curtis
Horizons Regional Council DATE 6 December 2021
RE Bioplant Submitter Letter

Horizons Regional Council (HRC) is currently processing an application from Bioplant Manawatu for a proposed pyrolyzing plant near Feilding. HRC has received a letter from Dr Trisia Farrelly who has raised some concerns about the proposal, and has asked Pattle Delamore Partners Limited (PDP) to provide some brief comments on some of the matters set out in the letter. Specifically this memo sets out comments on some of the matters that relate specifically to air quality, and potential effects associated with them.

1.0 MSW as a Pyrolysis Feedstock

PDP does not make any comment or not on the suitability of mixed solid waste (MSW) as a feedstock to the process. However we are comfortable that based on the mitigation equipment proposed (a two stage first passing through an ion exchange scrubber, and then a baghouse dosed with carbon/lime) that any discharges to air from whatever feedstock is used, should contain minimal contaminants and meet all required air quality standards and guidelines.

2.0 Is Pyrolysis Incineration

This is potentially an air quality issue because of Regulation 12 the National Environmental Standard for Air Quality prohibits the granting of consents for high temperature hazardous waste incinerators. Incineration is a combustion process which takes place when materials are burnt in the presence of air, whereas pyrolysis occurs in the absence of oxygen.

Whether the proposed process is incineration or not because a small amount of the syngas generated is going to be burnt to support the process is a moot point because Regulation 12 specifically talks about hazardous waste which are defined in international agreements. These waste would not normally be present in MSW, and MSW has a different classification to hazardous waste and therefore the regulation does not apply and there is no impediment to the granting of consent.

3.0 Environmental and Health Impacts

While there is the potential for a range of volatile compounds to be in the pyrolysis gases, PDP is comfortable that air treatment train proposed will effectively remove or reduce the concentrations of those compounds so that they meet all applicable health guidelines for the residual concentrations. This conclusion is supported by the test results provided with the Application. For compounds such as carbon monoxide that will not be captured or otherwise treated the discharge concentrations after dispersion are well less than any applicable assessment criteria and therefore will also not result in any adverse health effects.

Given the treatment proposed and the extremely low levels of particulate that is being discharged from this process, PDP does not consider that there is any need to model particles settling into waterways or onto land.

4.0 Can the treatment system remove dioxins

PDP does not consider the paper referenced is relevant to this proposal as in that case the waste being processed was automotive shredding residue. Notwithstanding this all combustion processes will produce some dioxins, with the treatment train proposed containing appropriate to reduce this to acceptable levels.

5.0 Conclusion

While Dr Farrelly's letter raises a number of interesting points in terms of the use of pyrolysis to dispose of waste, I do not consider that any of the matters that are raised with respect to discharges to air have changed the conclusions that I reached in my 13 August 2021.

Prepared by

Andrew Curtis

Technical Director-Air Quality

This memorandum has been prepared by PDP on the specific instructions of Horizons Regional Council for the limited purposes described in the memorandum. PDP accepts no liability if the memorandum is used for a different purpose or if it is used or relied on by any other person. Any such use or reliance will be solely at their own risk.