

BEFORE THE TASMAN DISTRICT COUNCIL

Under the Resource Management Act 1991

In the matter of of an application by **THE NELSON REGIONAL SEWERAGE BUSINESS UNIT** for resource consents to continue applying biosolids to land on Moturoa/Rabbit Island.



SUMMARY OF EVIDENCE OF NICHOLAS DAVID BERRY

2 AUGUST 2022

Duncan Cotterill

Solicitor acting: Katherine Forward/Derek McLachlan
PO Box 5, Christchurch 8140

Phone +64 3 3792430

Fax +64 3 3797097

katherine.forward@duncancotterill.com

derek.mclachlan@duncancotterill.com

Introduction

- 1 My full name is Nicholas David Berry. My credentials and experience have been outlined in full within my Statement of Evidence.

Scope of Evidence

- 2 In my evidence I assessed the following issues:
 - 2.1 The current status of the biosolids processes at the Bell Island WWTP, including:
 - 2.1.1 A brief overview of the existing treatment processes at the Bell Island WWTP
 - 2.1.2 A summary of the current biosolids production and estimated future biosolids production
 - 2.1.3 Biosolids classification in New Zealand and demonstration of compliance for the existing process at Bell Island, including an update to include plant data for the period after submission of my technical report
 - 2.2 An assessment of alternatives to the current biosolids process at Bell Island WWTP, including:
 - 2.2.1 End uses of biosolids and required level of treatment required.
 - 2.2.2 Screening of a long list of treatment options to select a short list of processes aligned with potential end uses
 - 2.2.3 Evaluation of the short listed alternative solutions.
 - 2.3 Comments on submissions where relevant to my evidence, and
 - 2.4 Comments on Officer's Report.

Key Findings

- 3 The key findings of my evidence include:
 - 3.1 Current biosolids production (July 2021 – April 2022) is approximately 2,657 kg DS/d or 89 m³/d at 3% DS as an annual daily average. This is estimated to increase to approximately 3,020 kg DS/d, or 100 m³/d at 3%DS over the duration of the consent (35 years).
 - 3.2 The existing biosolids produced at Bell Island WWTP are Grade Ab as per the NZ Biosolids Guidelines.
 - 3.3 A number of alternative processes were considered within the context of different end uses for the biosolids.

- 3.4 None of the alternative processes considered would produce a Grade Aa biosolid as they do not materially affect the metals concentrations.
- 3.5 There are alternative processes that could also produce a Grade Ab biosolid, however, for continued application to land as a slurry, they offer no significant net benefits over the existing ATAD solution and would incur a significant investment cost to implement.
- 3.6 For continued application of biosolids as a slurry on Moturoa / Rabbit Island, the existing ATAD process is the preferred option.
- 3.7 I commented on the submission of the Waimea Inlet Forum Working Group (WIF) where relevant to my evidence, specifically:
- 3.7.1 The WIF submission considered that the volunteered conditions did not deal with “any increasing volume or change in composition of the biosolids caused, by, for instance, urban growth and changing trade waste composition”. In my opinion, the 6 yearly Monitoring Technology Review Report (MTRR) in Condition 9(a) deals with this issue adequately.
- 3.7.2 The WIF submission also sought that the consent conditions include trigger points to determine when application of biosolids should be altered and seeks compliance of the proposed activity against the NZ Biosolids Guidelines. In my response, I outlined that the MTTR requires an assessment against the Biosolids guidelines and that there are monitoring requirements and trigger levels, based on the Biosolids Guidelines, in the proffered conditions. Compliance with these conditions should result in the biosolids process operating in accordance with the NZ Biosolids Guidelines, and in line with industry best practice.
- 3.8 I responded to several statements made in the Council Officer’s report, specifically:
- 3.8.1 Paragraphs 7.3 and 7.4 relating to the relevant Biosolids Guidelines. I noted that the approach adopted in my technical report is consistent with that of the Council Officer in that the 2003 Biosolids Guidelines were adopted as current and an indication of compliance against the draft 2017 Guidelines has been provided.
- 3.8.2 Paragraphs 7.27 and 7.28 relating to the monitoring of organic compounds. The Council Officer noted that a few contaminants are to be used as indicators. I responded that those adopted in the proffered condition were in line with the 2017 Biosolids Guidelines (Draft).

3.8.3 Paragraphs 7.85 and 7.86 relating to growth projections. My response to monitoring growth and future biosolids projections has already been outlined.

3.8.4 The new conditions proposed by the Council Officer, Conditions 17A and 18A. I acknowledged that I believe these conditions are reasonable as it requires reporting of non-compliances and action to be taken by the consent holder. I did note that for Condition 17A the number of samples that trigger reporting should be >3 which would be consistent with the Biosolids Guidelines.

Updates to my Assessment

4 Following further review of the volunteered condition suite, I have identified an error in condition 17(a) (b) and (c). The words 'volatile solids reduction' should be replaced with 'vector attraction reduction'. The reason for this change is to align the wording of the conditions with that used in the 2003 Biosolids Guidelines. Furthermore, the Biosolids Guidelines present a number of methods for achieving and demonstrating vector attraction reduction that could apply to the ATAD process. Volatile soils reduction is only one of those methods.

5 The proposed amended wording is identified (amendments are tracked into the drafting as proposed in Appendix B of Mr Murray's Evidence in Chief):

5.1 Condition 17 (a):

At no less than weekly intervals, a grab sample of biosolids shall be analysed for E and ~~volatile soils reduction~~; vector attraction reduction (VAR). VAR shall be demonstrated using one of the methods identified in the Biosolids Guidelines.

5.2 Condition 17 (b):

If a sample in clause (a) fails to meet the Biosolids Guidelines for E. coli and ~~volatile soils reduction~~ vector attraction reduction, the Consent Holder shall increase sampling to no less than 7 samples per month over a three-month period and samples shall be analysed for E. coli, Campylobacter, Salmonella, enteric viruses and helminth ova.

5.3 Condition 17 (c):

If clause (b) applies and there are more than three non-complying samples in the three-month then the Consent Holder shall report this to the Council's Team Leader Monitoring and Enforcement in writing within five working days of gaining the lab results of the ~~third~~ fourth sample; this reporting shall include what actions the Consent Holder will be undertaking to ensure the Biosolids Guidelines requirements for E. coli and ~~volatile soils reduction~~ VAR are met as soon as reasonably practicable; and

6 These amendments have been incorporated into the updated conditions appended to the Summary of Evidence of Mr Murray.

.....

2 August 2022

Nicholas Berry