

BEFORE THE HEARINGS PANEL

IN THE MATTER of hearings on
submissions concerning
the Proposed One Plan
notified by the
Manawatu-Wanganui
Regional Council

**SUPPLEMENTARY EVIDENCE OF MR HAROLD IVAN BARNETT
FOR THE WATER HEARING
ON BEHALF OF HORIZONS REGIONAL COUNCIL**

1. PART ONE: INTRODUCTION AND EXECUTIVE SUMMARY

1. I have prepared this report as supplementary evidence to my Section 42A report. It has been compiled in response to telephone calls I received from Antony Willemse, New Zealand Manager of Biolytix New Zealand and Zac Gill, Commercial Development Business Manager of Biolytix, Australia. Their issue was that the Horizons Manual for On-Site Wastewater Design and Management (August 2009) contained a definition of secondary treated wastewater that included a figure for total nitrogen, which implied nitrogen reduction. After considering the issue and following discussion with Sandy Ormiston of Ormiston Associates Ltd, I am recommending a change to the definition of secondary treated wastewater in the Manual (Version 2, August 2009) as it appeared in my Section 42A report. This revised recommendation is presented here.
2. This brief evidence is structured in three parts:
 - Part One: This introduction
 - Part Two: Issue raised by the submitters' representatives via telephone calls and my response, including my revised recommendations as a result
 - Part Three: Corrections I need to make to my original evidence.
3. I have discussed the issue with Sandy Ormiston of Ormiston Associates Ltd, who is Horizons' technical advisor for on-site wastewater treatment and land application. The issue was also discussed with Hamish Lowe of CPG Consultants, a recognised wastewater expert, in an informal meeting to discuss issues with land application of biosolids and on-site wastewater treatment (17 November, 2009).

2. PART TWO: RESPONSE TO ISSUE RAISED BY A WASTEWATER SYSTEM SUPPLIER

4. The issue raised by the submitter Biolytix New Zealand: Definition of Secondary Treatment in Manual for On-Site Wastewater Design and Management (August 2009); page 25. The definition should not include nitrogen reduction, i.e. the 30g/m³ total nitrogen requirement to be removed.
5. This issue, which was raised by the submitters' representatives in telephone conversations, resulted from an oversight in my checking of the Manual for On-Site

Wastewater Design and Management. It is commonly recognised in the industry that nitrogen reduction is not a requirement of secondary treatment.

6. Degree of Agreement: Agree totally – I consider that the matter can be resolved by altering the definition of secondary treatment in the Manual on Page 25 and amending Proposed One Plan (POP) Rule 13-11 (d) (ii), (da) (i) and (db) (ii) to reflect this change.
7. Nitrogen reduction is achieved by providing an additional nitrogen reduction cycle in the treatment plant. The effluent from such a plant is termed “advanced secondary treated with low levels of total nitrogen”.

3. PART THREE: CORRECTIONS TO ORIGINAL S42A REPORT

8. To implement the recommended correction I am resubmitting the Manual for On-Site Wastewater Design and Management (Version 2 August 2009) with the correction noted as track changes. The change essentially removes reference to total nitrogen in the definition of secondary treatment.
9. The change to the Manual is in Section 4 Wastewater Treatment under subsection 4.1, Introduction Secondary Treatment (Page 25, 6th paragraph). The ‘new’ Manual will be dated November 2009, Version 3.
10. Note: This change also incorporates a change to the on-site wastewater POP Rule in the evidence of my colleagues Clare Barton and Natasha James. Specifically, the change is proposed to sewage and wastewater Rule 13-11 for new and upgraded discharges of domestic wastewater (i.e. Rule 13-11 (d) (ii), (da) (i) and (db) (ii)).

Harold Barnett
November 2009