IN THE MATTER	of the Resource Management Act 1991 (the Act)
And	
IN THE MATTER	of resource consent applications under section 88 for AFFCO NEW ZEALAND LIMITED for discharges from the AFFCO MANAWATU EXPORT MEAT PROCESSING PLANT

STATEMENT OF EVIDENCE OF ANN NUKU (PLANT MANAGER)
ON BEHALF OF AFFCO NEW ZEALAND LIMITED

26 October 2016

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INTRODUCTION

1. My name is **Ann Nuku**. I am of Te Atiawa and Ngati Rahiri descent.

2. I am employed by AFFCO New Zealand Limited (**AFFCO**) where I have held the role of Plant Manager at the Manawatu plant at Feilding since 2005. Prior to that I held roles as Production Manager and Technical Manager at the plant, having started my career in the meat industry in 1988 as a Laboratory Technician.

EXECUTIVE SUMMARY

3. There has been a meat processing plant on the present AFFCO Manawatu site for over 100 years. AFFCO New Zealand has owned and managed the site and the plant since 1990. In early 1992 the plant underwent a major redevelopment, with old facilities replaced with a newer modern plant. The older plant processed sheep, cattle and bobby calves, while the current plant only processes cattle.

4. AFFCO is a major employer in the region and district, directly employing 380 staff. On top of that AFFCO employs many consultants and maintenance contractors and its staff live in the wider community. The value of the existing plant is estimated at $130m.

5. Wastewater generated at the AFFCO Manawatu site was originally discharged into the Oroua River with little or no prior treatment. This discharge included a range of materials with little treatment.

6. In the early 1970's a treatment plant including a save-all and anaerobic and aerobic ponds were installed to improve the quality of the wastewater. At this time, treated waste was irrigated onto company owned land adjacent to the ponds using hand shifted pipes.

7. This adjacent land was purchased by the Guy family in 1974 and irrigation continued. In 1986-87 rotating boom irrigation was introduced and the irrigation area expanded. This enabled not only a reduction in the amount of wastewater to be discharged to the river, but also enabled the limiting of times, river flow rates and discharge volumes for the river discharge, without compromising the operation of the plant.

8. Since this initial decision to irrigate some wastewater, an increasing proportion of the wastewater generated at the AFFCO Manawatu site has been applied to land as an alternative to the discharge to the Oroua River.

9. AFFCO Manawatu has increased its throughput from about 60,000 head of cattle in 1992, to 80,000 in 2010 and currently about 120,000. This increase extends the duration of the seasonal work provided.

10. This increase in production has not generated a parallel increase in the generation of liquid wastes. This is because the company continues to trial new technologies, seeking to adopt those that will enhance its productivity with product recovery, water conservation and to reduce its environmental effects.

11. AFFCO Manawatu has made many changes to its wastewater management system in recent years, spending over $2 million. These changes have included increasing plant water use efficiency, improving wastewater storage capacity, and improving the efficiency of wastewater irrigation onto farm pastures. It is currently one of the more efficient beef plants in New Zealand.

12. Sustainable wastewater management involves continuing to improve and refine processes to avoid or minimise adverse environmental effects, and AFFCO Manawatu is committed to achieving this. For example AFFCO has proactively driven efficiencies in its water usage resulting in it having a water usage rate less than most plants ($1.5m^3$/head compared to industry benchmark of $2.5m^3$/head).

13. We are operating in an environment of significant industry uncertainty and potential consolidation. Major expenditure if not essential and justified will significantly affect the viability of the plant. The need to line the ponds when there are no clear and demonstrable adverse effects, adopting a land discharge only option as sought by some submitters and operating under short term consents creates significant uncertainty within the company. This may lead to reducing production from the plant or even its closure in a sector that is highly competitive. While this closure would see AFFCO's production shift from the district (and loss of jobs there) it may be that another plant in the region will expand such that not all the jobs are lost from the region. However, what is clear is that increasing the scale of production at another plant will see fewer jobs required in the relocated of production.

14. As a result of Ngāti Kauwhata's CIA process, AFFCO has agreed to investigate options for decreasing the river discharge every 5 years and reporting this back to tangata whenua. This, along with the offer of assistance to develop Cultural Health Index Monitoring, has been proposed as conditions of consent by AFFCO.

15. AFFCO Manawatu plans to be here for the long haul. However, the ongoing viability of the plant needs to be considered in light of the very competitive market place where there are small profit margins and a high degree of market and seasonal uncertainty.

QUALIFICATIONS AND EXPERIENCE

16. I have the following qualifications and experience relevant to the evidence I shall give.

17. I hold a New Zealand Certificate in Science (NZCS) and I have 32 years Technical and Management experience in the Food and Meat Industry. In this time I have been involved in a number of water and wastewater projects at Meat Plants including the AFFCO Manawatu Plant. Whilst working on these projects I have worked with a number of organisations and consultants including Meat Industry Research Institute of NZ (MRINZ), Leather & Shoe Research Association (LASRA), Massey University, CPG Consultants, ARGO Consultants and CARDNO Consultants. I was working at the Feilding Plant in a technical role at the time of the irrigation extension on the Guy property in 1988 and was involved in this project as well as all other upgrade and modification projects until the present time. I was also involved in the previous resource consenting process for the Feilding Plant.

18. My specific responsibilities as AFFCO's Manawatu Plant Manager include:

    (a) Management of Export Meat Processing facility involved in the slaughter, boning and coldstorage of frozen and Chilled Beef products;

    (b) Two shift operation processing up to 120,000 cattle per year with 380 employees. This includes:

        (i) responsibility and accountability for overall site operations;

        (ii) management of staff: twelve direct reports and an associated workforce of 380 employees;

        (iii) Compliance with regulatory, legislative and customer requirements (for example Animal Products Act 1999, Health and Safety legislation, Employment Relations Act 2000);

        (iv) specific responsibility for the site Health and Safety and ACC Accredited employer programme; and

        (v) adherence to and maintenance of employment agreements, liaising with unions and individuals and negotiating variations as required, and managing dispute resolution and employee assistance programmes.

19. I am a member of a number of relevant associations including:

    (a) the Manawatu River Leaders Accord;

    (b) secretary of the Oroua Catchment Care Group; and

    (c) member of Royal Society of New Zealand Expert Reference Group supporting the expert panel set up to provide advice on the science technician workforce in New Zealand.

20. Prior to my current role I have acted in a number of roles which have included relevant responsibilities, such as:

    (a) Production Manager in charge of Beef Processing operations at AFFCO Manawatu.
    This role required day to day planning and management of Slaughter, Boning and Cold storage operations on Plant.

    (b) Unit Business Manager AFFCO Manawatu. In this role I was responsible for Livestock receipt, Slaughter, Offals, Hides, Renderables, and on site Coldstores.

    (c) Compliance Systems Coordinator AFFCO Food Group. This role required me to:

        (i) review company quality and compliance monitoring programmes; and

(ii) plan and develop a new generic monitoring programme that is compatible with the current regulatory environment of Meat Industry Standard Manual 8, development of performance based verification and proposed risk management programmes, and legislative requirements and customer and company standards

(d) Quality Systems Coordinator AFFCO NZ Ltd. In this role I managed the AFFCO Internal / External Audit programme for compliance to ISO 9002, Regulatory, Legislative, Customer and Company Standards. This role included ensuring AFFCO's compliance with Health and Safety, Resource Management and Meat Industry Laboratory standards (MILAB standards).

21. Prior to these roles I was also employed as a laboratory manager and a microbiologist at the Waitaki Feilding Meat Processing Plant, as well as working on the effluent monitoring programme associated with Waitara Township and Waitara Freezing Works wastewater Treatment upgrade project.

SCOPE OF EVIDENCE

22. My evidence addresses the following matters:

(a) the history of the AFFCO Manawatu plant;

(b) regional contribution by AFFCO;

(c) history of Wastewater Management at the Site;

(d) trends in AFFCO Production: History, Current and Future;

(e) recent changes in wastewater management;

(f) costs of, and investment in, wastewater management changes;

(g) compliance front-footing;

(h) Consultation with Neighbours;

(i) Consultation with Groundwater Users;

(j) consultation with Iwi and others; and

(k) consultation with Iwi.

GENERAL BACKGROUND

History of the AFFCO Manawatu Plant

23. There has been a meat processing plant on the AFFCO Manawatu site almost continuously for a period of over one hundred years.

24. In 1914, an area of thirty-two acres was bought on the banks of the Oroua River by the Feilding Farmers Freezing Company. By 1916 there were facilities for slaughter, processing and freezing on the site. Like many plants built around that time, its site

was clearly selected as being close to a town (Feilding) for a labour supply, and close to a river (the Oroua River) for both a processing water source and a place to discharge waste.

25. In 1931 the British firm Borthwicks purchased the site.

26. In 1987, the Feilding plant (along with other Borthwicks – CWS plants) was bought by Waitaki NZ Ltd, which was in turn bought by AFFCO in 1990.

27. AFFCO then closed the plant and totally rebuilt it in 1992. Since that time, AFFCO Manawatu has operated it as an Export Beef Processing Plant.

Regional Contribution by AFFCO

28. AFFCO New Zealand operates an export meat processing plant at Feilding. It processes about 120,000 head of cattle per year, in a season that normally lasts from early September to late July. It provides a market for livestock for farmers throughout the lower North Island. The plant is one of the most modern in the southern hemisphere with a present capital value of around $130 million.

29. AFFCO Manawatu is one of the biggest employers in the Manawatu, paying around $22 million per year in wages and salaries. The operation employs approximately 380 staff at peak, mainly from the local area. The site utilises local and regional contractors, with a significant annual contractor spend, most of which is spent locally.

30. AFFCO Manawatu makes a significant contribution to the Manawatu regional economy as illustrated by the following data for the year to 27 September 2016:

    (a) Livestock & transport $163 million

    (b) Plant salaries & wages $19 million

    (c) Plant overhead costs $0.6 million

    (d) Repairs & maintenance $2.1 million

    (e) Corporate overhead costs $1.3 million

31. The Manawatū-Whanganui Growth Study (July 2015) prepared by NZIER and Henley Hutchings on behalf of Ministry of Primary Industries, Ministry of Business Innovation & Employment, recognised that the regional hill country beef and lamb sector are amongst the most productive in New Zealand. However, the region's GDP is 23% below the national average and the region ranks 13th out of 15 statistical regions.[1] The Study recognises the impact of global forces on jobs in the region and the need to being able to adapt quickly.[2] With agriculture not producing extra jobs and manufacturing in the same position growth in the region has faltered. The Study recognises the need within the traditional agricultural sector to increase scale to better

[1] At page 10.
[2] At page 11.

compete on costs and is aimed at identifying regional growth opportunities that can boost jobs and living standards.[3]

32. One of two key opportunities is improved productivity from the existing base and this historically has focused on agriculture. Therefore, it is unsurprising that one of the eight opportunities for regional growth is sheep and beef farming and processing. The Study records that red meat production is a large component of the farming sector in the region (employing 8,343 people).[4]

33. The Study goes on to question whether gains in processing, especially those that add value, can produce additional jobs concluding there is no question that there is the base capability from which to build.[5] In terms of sheep and beef processing the Study addresses potential consolidation in the sector and the efficiency gains that may add. However, for the region those gains are recognised to have a significant negative impact, particularly in terms of jobs.[6]

History of Wastewater Management at the Site

34. At and immediately following the time the plant first became operational in 1916, it is likely that most of the waste stream from the plant was discharged directly into the Oroua River with minimal treatment.

35. In early 1970 a comprehensive treatment system was built to manage treatment of waste streams from meat processing, rendering and fellmongery. This included pre-screening, separation of stockyards waste, save-all, anaerobic pond polyelectrolyte treatments and irrigation of some final treated effluent to land. Fellmongery waste was treated separately and rendering was recycled for K tallow recovery. At this time the plant produced 5 times the volume of waste that the current plant produces.

36. When the treatment plant was installed in the early 1970's some land irrigation was carried out on company owned land using hand shifted pipes. When adjacent property was sold to the Guy family in 1974, this led to an agreement to irrigate some of the wastewater from the plant onto the Guy's farmed pastures. This had the complementary effects of providing both irrigation water and nutrients to the farm, while enabling an equivalent reduction in the amount of wastewater needing to be discharged into the river. Initially the Guy family utilised hand shifted pipes and in 1986-87 rotating boom (Roto-rainer) irrigation was installed which increased the irrigation opportunities.

37. Over succeeding years, the wastewater irrigation system was refined and extended, to cover a greater area of land, and to apply the wastewater more efficiently. By 1995 when applications for the currently operative discharge consents were being considered by Horizons Regional Council, the land discharge was taking a sufficiently large proportion of the wastewater to enable meaningful limits on the river discharge to be proposed by AFFCO, without compromising the plant's operation.

[3] At page 12.
[4] At page 83.
[5] At page 89.
[6] At page 94.

Trends in AFFCO Production: History, Current and Future

38. AFFCO Manawatu currently operates a seasonally dependent double shift, five to six days a week, processing 100,000 to 120,000 cattle per year. The plant is a major supplier of chilled prime cuts to Europe, the Middle East, Asia and North America. Most of the Manufacturing meat goes to the US Market and is used for grinding / burger meat production. AFFCO Manawatu is certified for Halal slaughter and is regularly audited by the USDA and EU and customers such as McDonalds and Burger King. The plant is also specifically listed for export to China and Malaysia.

39. In the last five years or so the meat industry has faced significant issues including:

    (a) exchange and finance cost rate;

    (b) foreign protectionism;

    (c) aging plant;

    (d) falling stock numbers due to drought, dairy conversions, and farming viability generally;

    (e) over capacity that has been exacerbated by falling stock numbers; and

    (f) more recently the recession in our main markets.

40. These issues have affected the viability of the industry as a whole and individual companies and plants. However, due to AFFCO's efficient and modern plant, its international contracts, and its focus on beef the plant has been able to maintain its market share despite these challenges.

41. AFFCO recognises the need to modernise and streamline plants in order to ensure the viability of group operations. The economic issues affecting industry viability, including falling stock numbers and over capacity, remain of concern and the imposition of unrealistic cost burdens on the Manawatu plant would impact on its commercial viability.

42. As recently as 2010, AFFCO Manawatu expected to process up to 100,000 head of cattle per year. Since then there has been an increase in throughput with a peak production in 2015 of 127,000. This recent increase reflected the change in dairy farm pay-outs and the killing of stock in drier conditions. While these circumstances are not expected to continue (with potentially a shortfall in stock this year) they illustrate how the plant has to be flexible to respond to market conditions. While it will be challenging it is hoped that the plant can stay at higher levels of throughput.

43. This increase in production has not lead to a parallel increase in wastewater generation. AFFCO continuously trials new technologies, adopting those that enhance our business. Reductions in water use in the plant not only reduce the volumes of wastewater to be managed, but also reduce the cost to the company of bringing our supply of raw water up to a quality standard that is suitable for an export meat processing plant.

44. Looking forward, the meat processing industry is highly competitive. As circumstances continue to evolve, the companies and plants that embrace innovation within a sound business approach will be those most likely to succeed in the long term. There are 8 processing plants within the region, 2 owned by AFFCO, so it is fiercely competitive. AFFCO Feilding has focused on beef production and our speciality in that market has enabled us to maintain market share and supply.

45. AFFCO Manawatu plans to be here for the long haul. However, the ongoing viability of the plant needs to be considered in light of the very competitive market place where there are minimal premiums and a high degree of market and seasonal uncertainty.

RECENT CHANGES IN AFFCO WASTEWATER MANAGEMENT

46. AFFCO Manawatu has made a number of changes to its wastewater management system over recent years.

47. The first of these has been a continuation of an on-going program of economising on water use, enabling an increased throughput at the plant without a commensurate increase in the volumes of wastewater to be managed. Current water consumption is about 1.5 m^3/head of cattle processed compared to an industry benchmark of 2.5m^3/head and we will continue to seek sustainable reductions in this.

48. The second major change has been to the configuration of the wastewater treatment plant. This has involved setting aside two ponds as reserve storage capacity for treated wastewater. This in turn provides for production at the plant to continue at times when neither land treatment nor river discharge of wastewater are possible, with storage until such time as either land or river discharge are possible.

49. The third change has been to the land treatment system, with moves to enable more efficient irrigation of wastewater onto farmed pastures; with further changes and enhancements dependent on the granting of these consents.

50. The fourth change has been the screening of solids from the plant to release this to rendering and not to waste which has improved the quality of raw material prior to treatment.

51. The fifth change is the removal of most of the blood from the waste stream for rendering and more recently plasma which has significantly reduced nitrogen loading and volume.

52. The sixth change is removal of Wallace Corp waste which further improved the volume and quality of raw material prior to treatment.

53. These changes have resulted in a reduction in waste contaminant loadings to the treatment system. However, the reduction has been offset to some degree by an increase in production, meaning that in general terms the increased production has not increased the volume and mass of contaminants to be discharged to the receiving environment. This is a positive story as it has allowed us to maintain our environmental foot print. Despite maintaining our footprint with increased production,

we are seeking the ability through these consents to increase volume and contaminant load discharges from that in 2013 by 20 %. This increase is to provide for flexibility within the operation of the plant and provide for an uncertain market place. For example, earlier in my evidence I mentioned the potential closure and relocation of production to another site. Equally the reverse could apply with AFFCO Manawatu picking up production from another plant.

Costs and Investment in Wastewater Management Changes

54. Over recent years, AFFCO has extensively refurbished the Manawatu plant. In 1992 the plant was rebuilt at a cost of NZ$18m. It is one of the most modern beef plants in the Southern Hemisphere.

55. The AFFCO Manawatu wastewater treatment system has been subject to progressive upgrading, especially in the last 5 years. The changes have eliminated odour nuisance and improved effluent quality. Implementation of technology has provided more timely and accurate data and better control of the management of irrigation, storage and discharge of treated waste.

56. Operational changes relevant to wastewater treatment at AFFCO Manawatu in the last 5 years are in excess of $2 million and include:

    (a) significant earthworks to repair, restore and upgrade storage ponds and surrounds;

    (b) removal of redundant equipment;

    (c) installation of new pipe work, pumps and automation of control systems;

    (d) installation of monitoring equipment to provide timely and accurate information;

    (e) upgrade of software to effectively control management of irrigation storage and discharge of treated waste;

    (f) redirection of all waste streams ex the plant to screening to remove solids from waste and redirect to rendering;

    (g) alterations to blood recovery to remove blood from waste and recover for plasma and rendering;

    (h) modifications to achieve water usage reduction, particularly hot water as part on an ongoing energy project;

    (i) reconfiguration of pipes and pumps to optimise control of storage, irrigation and discharge of treated waste;

    (j) desludging of all ponds;

    (k) upgrade of aerators;

    (l) removal off Wallace Corp discharges;

(m) modification of solids pond discharge including installation of baffle;

(n) CCTV inspection and GPS mapping of all plant pipe infrastructure for water, waste water, storm water etc; and

(o) maintain annual jet cleaning of all waste water pipes.

57. Horizons experts have questioned the potential to line the ponds. I understand that the ponds are currently lined (with clay) but limited leakage may occur. Horizons effectively seeks that the permitted activity level (such that consent is not required) of leakage is achieved. I understand from AFFCO's experts that, despite the long operations at the site, there is not any evidence of a significant effect occurring. Mr Lowe estimates the cost of lining the ponds at $1 to 2.5 million. This is a significant cost that would affect the competitive advantage and viability of the plant.

COMPLIANCE FRONT-FOOTING

58. AFFCO Manawatu has taken the view that the continued sustainability of its operations, and even the continued access to markets for its products, will remain dependent on its ability to deliver a “better than ordinary” environmental performance. Part of that delivery is contained within the new consents sought and taking the initiative with consent condition compliance assurance.

59. This means that AFFCO makes its own assessments of compliance with all consent conditions, and does so on a monthly basis, not just on an annual basis. This way, any intended environmental result that is specified in a consent is able to be tested and verified.

60. This approach has been developed from 2013. In December 2012 the aerobic pond overflowed and discharged into the river through its regular discharge route, rather than into the storage pond. AFFCO were prosecuted by HRC and pleading guilty. Because of this incident our wastewater management systems have been substantially upgraded so that such an occurrence could not be repeated. It also drove home the need to constantly monitor and improve processes to ensure compliance with consent conditions and where possible to go beyond the minimum, an approach to which I, and AFFCO, are committed. Since that time AFFCO has had a clean compliance record.

61. Compliance with resource consents is further discussed in evidence to be provided by Mr Hill.

ENGAGEMENT

Consultation with Neighbours

62. Neighbours with properties adjoining the AFFCO site were invited to a first meeting as part of the renewed consenting process on 17 June 2014. This meeting was to discuss plans for renewal of consents.

63. From that date there were a further three meetings with neighbours, held on 14 August 2014; 11 September 2014; and 12 February 2015. At each of these meetings updates were provided and questions were asked and answered. Key issues discussed included potential groundwater and odour effects.

64. A number of background documents were provided at these meetings. In order to maintain communication with neighbours who may have been unable attend site meetings, “Update” letters were sent to all neighbours for whom AFFCO had contact details.

65. Odour was an issue that was raised by neighbours during consultation. AFFCO explained that we are also very sensitive to odours, because visiting foreign customers would not be impressed by bad smells. On a site visit neighbours watched the wastewater irrigation system in operation, and expressed their pleasant surprise at how “un-smelly” the irrigated wastewater was. It was apparent that over many years odours from other industrial and agricultural activities nearby had been erroneously attributed to AFFCO.

66. It is proposed that regular meetings with neighbours should continue on an on-going basis after the grant of these consents, to ensure that there is a direct opportunity for neighbours to stay in touch with what we are doing, and to raise any matters that may be a source of concern. We have suggested this as a condition of consent.

Consultation with Groundwater Users

67. The owners of shallow bores located within 1 kilometre of AFFCO were approached in June 2013, to be asked for access to those bores to enable sampling and analysis to inform our resource consent applications. Seven bore owners accepted the request for bore access. Information on the analysis results was provided to the bore owners.

68. Owners of deep bores in the same area were contacted in May 2014 for the same purpose. Agreement was reached for access to sample bores on 4 properties.

69. In May 2014 bore owners were invited to a meeting to explain what processes were taking place and to request further sampling visits over the next 6 months. Only three bore owners attended this meeting. AFFCO offered further consultation, which one land owner chose to follow up and continued communication has taken place to discuss the impact of irrigation around his property.

Consultation with Iwi

70. Ngāti Kauwhata has identified itself, and AFFCO acknowledges, as Tangata Whenua with the primary kaitiaki role in the Feilding locality which includes the AFFCO plant and the Oroua River.

71. The first contact with Ngāti Kauwhata regarding these consents was a meeting on 29 July 2010 to discuss plans for the renewal of the AFFCO. From that date until 14 July 2014 there were a further 9 on-site meetings between AFFCO and Ngāti Kauwhata representatives, to observe and discuss aspects of the plant activities and resource

consenting. (These meetings were held on 31 May 2011; 10 October 2012; 10 February 2013; 23 April 2013; 14 April 2014; 5 June 2014; 17 June 2014; 4 July 2014; and 10 July 2014).

72. More recently, Tanenuiarangi Manawatu Inc (TMI - Rangitaane o Manawatu's mandated iwi authority) and Ngāti Whakatere lodged submissions on the notified consent applications. Both have been involved on discussions about the discharge.

73. Ngāti Kauwhata have made clear from the outset their wish to see an improvement in the condition of the Oroua River, and for this purpose to see a reduction in the effects that the AFFCO discharge has on river water quality. AFFCO has worked with Ngāti Kauwhata to develop solutions to separate the discharge from the Otoku Stream, and have worked with them to plant 100 m of the stream though our property, with plans to plant an additional 250 m.

74. Arising from consultation with Ngāti Kauwhata, and in the light of submissions received on the notified consent applications, a Cultural Impact Assessment (CIA) was commissioned in February 2016 to address the effects of our proposed activities on Māori values. Specific comments on the CIA and the matters that it addresses are provided in the evidence of **Mr Lowe, Mr Edwards** and **Dr Ausseil**.

75. The CIA essentially recommends we consider options and alternatives to provide for 100% of our discharge to be applied to land and suggests a consent term of 10 years.

76. A 10-year consent term does not provide sufficient financial certainty for a processing plant in today's commercial environment. It will significantly constrain any growth of the plant, as mentioned above, in an industry is facing significant drivers to consolidate. The short term would make it more likely that should consolidation occur another site (which may be in the region but in a different district or in another region) would be preferred. As explained above the industry is in a very challenging time. The greater the uncertainty the less chance that this plant will continue to operate and certainly will not grow as investment (and jobs) will be allocated to other sites. Consent term and its appropriateness is discussed in the evidence of **Mr Edwards**.

77. I agree that 100% discharge to land would be a desirable outcome, not only to satisfy cultural preferences, but also from a water and nutrient sustainability perspective for the River. However, **Mr Lowe** has estimated the costs of such a system (which requires significant extra land and storage (which would need to be lined)) as being in excess of $4.5 million. On top of all the other compliance requirements, such a significant cost at the present time and in the present industry environment would make the plant unprofitable and likely lead to its closure.

78. This plant has been an industry and national leader in applying wastewater to land, having started more than 30 years ago. We have also proactively made significant modifications to improve our discharge regime over the years. AFFCO is committed to continuing to look at options to reduce (and potentially one day avoid) discharges to surface water as the industry and technology changes. The evidence of **Mr Edwards** contains a proposed condition that would provide for the ability to investigate on a

periodic basis options for a lesser discharge to surface water to assist with iwi aspiration of reducing all discharges to surface water.

79. The CIA also raises concerns about not knowing the health status of the river as it relates to tangata whenua. Through my involvement with the Oroua River Catchment Care Group, I understand and appreciate there is limited monitoring of values that inform iwi about the health status of the river. Consequently, while ideally a function of all water users, AFFCO would like to assist tangata whenua with developing protocols for Cultural Health Index Monitoring. The evidence of Mr Edwards suggests a proposed conditions to this effect.

80. In addition to these proposed conditions to investigate and report on options, AFFCO has responded to concerns raised by iwi, in particular in the CIA, by:

    (a) devising a discharge system that significantly reduces the current water quality effects on the Oroua River (in particular an 87% reduction in DRP and SIN) which will substantially reduce potential periphyton effects;

    (b) providing for fish passage (which presently does not exist) between the Oroua River and the Otoku Stream;

    (c) planting on the stream and river banks as mentioned above;

    (d) assisting to re-establish a koura fishery in the stream, to be managed by Ngāti Kauwhata;

    (e) providing for land passage (over rock filters) of effluent before it is discharged into the River as opposed to the present direct discharge; and

    (f) providing for cultural health index monitoring to better recognise Ngāti Kauwhata's and Rangitaane's kaitiaki role with the river and area.

Ann Nuku

26 October 2016