

SUBMITTER Tegel Foods Limited and
Brinks South Island Limited

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SUBMITTER No. 561 and 511

IN THE MATTER OF the Resource Management
Act 1991

AND

IN THE MATTER OF Submissions to the
Environment Canterbury
Proposed Natural Resources
Regional Plan (Variation 1)
July 2004.

STATEMENT OF EVIDENCE OF LEE CAYGILL MARR

INTRODUCTION

1. My name is Lee Caygill Marr. I hold a Bachelor of Arts (Geography) and a Masters of Planning Practice (Honours) from the University of Auckland, Auckland, New Zealand. I have worked as a Planner for four years and am a Senior Planner with Harrison Grierson Consultants Limited. I am familiar with rural resource planning issues.
2. I appear in connection with the Submissions lodged on behalf of Tegel Foods Limited ('Tegel') and Brinks South Island Limited ('Brinks') in respect of Proposed Variation 1 of the Proposed Canterbury Natural Resources Regional Plan – Chapter 4 (Water Quality).
3. The evidence I will present today will address the following points in respect of the submissions prepared by Harrison Grierson on behalf of Tegel and Brinks –
 - Poultry production in New Zealand and the Canterbury region;
 - Activity Rule WQL23 and WQL24;
 - Activity Rule WQL26;
 - Activity Rule WQL28;

- Activity Rule WQL29; and
- Activity Rule WQL31.

THE POULTRY INDUSTRY IN NEW ZEALAND

4. The poultry industry is a dynamic sector of New Zealand's primary production industry, and it includes the production of both poultry meat and eggs. The industry is expanding rapidly, and is the major intensive livestock industry in New Zealand. In the mid-1960s the production of poultry meat using specialist meat breeds was in its infancy in this country, and consumption averaged about 1kg per person per year.
5. By comparison, in the year ending 2006, each New Zealander consumed an average of around 36kg of poultry meat, accounting for 36% of total meat consumed. Cheaper production, lifestyle changes, and consumer perception have seen poultry consumption continue to increase even though total meat consumption has remained relatively static.
6. In terms of egg production, in 2006 there were 900 million eggs produced and 218 eggs consumed per capita. The majority of eggs are sold as table eggs on the retail market, with the remainder to food service and industrial users. Egg production has increased over 20% over the last decade to meet increasing demand.

THE SUBMITTER'S OPERATIONS IN THE CANTERBURY REGION

7. Tegel's and Brinks operations in Canterbury include:
 - 2 processing plants;
 - 3 feedmills;
 - 7 chicken breeding farms (Breeder Farms);
 - 34 chicken growing farms (Broiler Farms);
 - 1 chicken hatchery;
 - 2 chicken rearing farms;
 - 3 turkey broiler farms;
 - 1 turkey breeder farm;

- 1 turkey rearing farm; and
 - 1 turkey hatchery farm.
8. In the Canterbury region, the submitters employ around 600 full time equivalent (FTE) staff.
 9. Each function is interdependent on the others, so that regulations affecting the operation of one function will have knock-on effects on the others, including those not directly owned and operated by the submitters.
 10. The submitters view the Canterbury region as a strategic growth location and a significant proportion of their national business activity is already located here.
 11. The submitters seek a balanced and transparent resource-planning regime for the Canterbury region that acknowledges and provides for their status as an important primary production industry and major local employer, making a significant overall contribution to the social and economic wellbeing of the region and New Zealand as a whole.

ENVIRONMENT CANTERBURY PROPOSED NATURAL RESOURCES REGIONAL PLAN VARIATION 1: CHAPTER 4 JULY 2004 (THE PROPOSED PLAN) WQL23-WQL31

12. I consider that improvements are needed to a number of rules to ensure they are reasonable, effects-based and justifiable in resource management terms.
13. I would like to state at the outset that I am not a scientist and so I can only refer to potential resource management problems as I see them and offer non-technical solutions.

WQL23 AND WQL24

14. Our submissions regarding Rules WQL23 and WQL24 sought to retain the permitted activity status for the discharge of dead animal matter to land and for the discharge of solid poultry effluent to land subject to appropriate conditions.
15. It is considered that the conditions for discharging dead animal matter contained in Rule WQL23 are appropriate.
16. With regards to WQL24 we have concerns regarding Condition 3. The reporting officer has recommended that the condition, which restricts the frequency of discharges of material onto the same area of production land, be amended from

six months to three months. The reporting officer has commented within their assessment that *"increasing the frequency to three months would provide better for nutrient application in the context of seasonal cropping cycles and would have no more than minor effects"*. The poultry industry requests that a frequency of once every two months be considered by Council if the effects will be no more than minor.

17. A review of Regional Plans for the 11 Regional Councils around New Zealand (excluding the 4 Unitary Authorities) found that only two other regional authorities restrict the discharge frequency for effluent solids to land. Otago Regional Council permits effluent discharges to land provided that there is a minimum period of 15 days prior to reapplication on the same land. Southland Regional Council also includes a minimum return period of 28 days prior to reapplication, however it is noted that Southland Regional Council do not provide for poultry effluent and litter and their rule applies to dairy and piggery discharges.
18. Of the 11 Regional Councils reviewed seven of the Plans allowed for discharges permitted under Rule WQL24 as permitted activities and three of the Plans provided for the discharges of controlled activities. The Southland Regional Plan did not specifically provide for poultry effluent discharges to land so the activity status by default is discretionary. It is noted that seven Regional Councils included nitrogen caps or restrictions within their conditions and standards and that such a condition could be used to replace Condition 3 of Rule WQL24.
19. We consider the poultry industry's issues with Condition 3 of Rule WQL24 could be addressed by various means such as: the amendment of Condition 3 to a two month period; replacement of Condition 3 with a nitrogen restriction; or amend the rule to include an additional activity which provides for controlled activity status of a discharge if the discharge does not comply with Condition 3 of this Rule.

WQL26

20. Rule WQL26 provides for the discharge of animal effluent onto land. The Rule requires, amongst other things, spray irrigation and that discharges be at least 20 metres away from artificial water courses, in order for the activity to achieve restricted discretionary activity status.
21. The reporting officer made the following comments with regards to the submissions by Tegel and Brinks on Rule WQL26:

"Although washwater discharges under the circumstances described by the submitters may have a lower concentration of animal effluent than some other discharges controlled by Rule WQL26, the effect of the effluent discharge will vary depending on the characteristics of the collection and storage system and the frequency and application rate of the discharge. Although not specified by the submitters, washwater discharges are also likely to contain cleaning agents that could have an adverse effect on water quality. In the absence of certainty about the composition of washwater discharges it is appropriate that the potential effects be assessed and addressed through the resource consent process".

22. With regards to the reporting officer's comments I would like to clarify the general composition of the washwater discharges and the methodologies most commonly used by the poultry industry. The two discharge methods most commonly used by the poultry industry are land irrigation and boulder pits (or sumps). The discharge method used is determined by a number of factors such as the lot size of the subject farm.
23. Common practice is for washwater not to be stored on site. When the sheds are washed down the washwater is held within a sump then pumped from the sump onto the land without delay. Where boulder pits are used the discharge is via infiltration through the bottom of the pit. The frequency of the discharges is approximately once every two months with the application rate in line with the conditions included in Rule WQL26.
24. With regards to cleaning agents both Tegel and Brinks use biodegradable cleaning agents (such as Biostrip) when washing down poultry sheds. However with the amount of water used during the process any residual levels from the cleaning agents will be heavily diluted. In addition some Tegel operations use no detergents but spray a leave on sanitiser in the shed after a water wash down.
25. Our initial submission considered that Rule WQL26 was overly restrictive, yet the Officer's report has recommended a number of changes to Rule WQL26 which seek to increase the restrictions on discharges and change the activity status to be more onerous than was initially proposed. The reporting officer has discussed the activity status of Rule WQL26 within their assessment of the rule. The reporting officer comments that *"it is appropriate to provide for an activity as permitted or controlled only if there is a high degree of confidence that the*

conditions will effectively avoid or mitigate adverse effects in all circumstances".
It is considered Council can be highly confident that conditions can effectively mitigate any adverse effects from the discharge of poultry washwater to land and that a controlled activity status would be an appropriate level of control.

26. The permitted activity standards for the discharging of animal effluent or water containing animal effluent onto land requires that the permitted discharge is to be 200 litres or less in any consecutive 12 month period amongst other conditions. The restrictive volume permitted under Rule WQL26 ensures that no poultry farming discharges will be undertaken as of right. This would allow for approximately 28 litres of water to be used for each shed wash down (based on 7 wash downs per year). For example Tegel estimates the volume of washwater from each shed wash down would be approximately 15-20m³ (or 15,000-20,000 litres) for broiler operations and 20-30m³ (or 20,000-30,000 litres) for breeder operations. We consider it is reasonable to control the discharge of washwater, however it needs to be allowed for with appropriate conditions.
27. Additional Condition 3(b) has also been recommended for inclusion in Rule WQL26. This condition requires that there shall be no discharge of any contaminants onto land within 20 metres of a river, lake or artificial watercourse. Where a discharge does not comply with Condition 3(b) the discharge becomes a non-complying activity. Given the nature of farm land and the inclusion of farm drainage within the definition of artificial watercourses Condition 3(b) seriously limits the surface area for discharging animal effluent or water containing animal effluent. With a reduced surface area over which the discharge can be spread the setback restrictions will inadvertently result in a more concentrated discharge of animal effluent or water containing animal effluent.
28. It is noted that Rule WQL24 allows for the discharge of solid animal waste (containing animal effluent) to within 10 metres of any permanently flowing river or artificial water course rather than 20 metres. Furthermore where the discharge of solid animal waste does not comply with the setback requirements of Condition 5(c) of Rule WQL24 the discharge becomes a discretionary activity not a non-complying activity.
29. It is considered that the setback for animal effluent discharges in Rules WQL24 and WQL26 should be consistent and that non-compliance with the required setbacks from artificial watercourses should result in the discharge being a discretionary activity.

30. This stance is further supported by the reporting officer's assessment of a submission by the Institute of Environmental Science and Research Ltd. Their submission recommended a separation distance of 20 metres be applied to Rule WQL24. The reporting officer made the following comments in relation to this submission:

"The conditions of the rule safeguard against discharge at a rate or in a way that exceeds the capacity of plants and soil to assimilate any contaminants.

In particular, the rate of application is controlled by Condition 3 and the requirement to spread material evenly (Condition 4) will encourage rapid breakdown of contaminants. In addition, the potential for contaminated runoff to enter surface water bodies is discouraged by Condition 6 which prevents material being applied to saturated soil. Under these conditions, only discharges in very close proximity to a river or other water body are likely to have potential for more than minor effects on water quality, and an increased separation distance from rivers and artificial watercourses is not considered to be justified."

31. It is noted that Condition 3 of Rule WQL24 restricts the frequency of solid waste discharges to once every three months; Condition 4 requires that material is spread onto land as evenly as practicable and Condition 6 prevents material from being discharged onto land where the soil moisture exceeds field capacity.
32. It is considered that similar conditions to those used to justify the 10 metre setback of Rule WQL24 are included in Rule WQL26. Condition 1 of Rule WQL26 requires that any discharges of animal effluent or water containing animal effluent be via a spray distribution system. If this condition is to be retained it will assist in material being spread onto land as evenly as practicable. Condition 4 prevents discharges to frozen ground or snow covered ground and Conditions 2 and 7 of Rule WQL26 control the application rate, discharge depth, and nitrogen loading rate for discharges. It is considered that Conditions 2, 4 and 7 prevent the discharge being applied to saturated soil and ensures the concentration of contaminants per hectare is appropriate for the location.
33. In summary, it is considered that the setback for the discharge of animal effluent or water containing animal effluent should be amended to 10 metres from the recommended 20 metres. The potential adverse effects on water quality from the

reduced setback are mitigated through restrictions on discharge rates and nitrogen loading rates. These conditions will ensure the soil has the capacity to receive the subject discharges without generating more than minor adverse effects on water quality. It is noted that the amendment will result in consistency between Rules WQL24 and WQL26 and will provide additional surface area for any discharges to be spread over.

34. The submissions by Tegel and Brinks also opposed the discretionary activity status of discharges of animal effluent or water containing animal effluent to land where spray distribution systems were not used. Under Rule WQL26 discharges of washwater from poultry sheds into boulder pits would be a discretionary activity. Tegel has confirmed that boulder pits are used to discharge washwater where there is minimal land to discharge the washwater to.
35. Boulder pits involve the discharge of washwater through filtration from the bottom of the pit. It is considered that the use of boulder pits is appropriate in some instances and that boulder pits can effectively remove residual solids from the liquids discharged. Furthermore it is noted that washwater discharges are low strength (as all solid matter is cleaned out prior to the sheds being washed down) and infrequent (occurring 6-7 times per year) and as such the level of control is unnecessarily restrictive. I understand the basic principles behind the preference to spray irrigate, but feel there to be good reason to adopt a more flexible approach, provided the composition of the effluent meets the appropriate standards.

WQL28

36. In relation to the submissions by Tegel and Brinks regarding Rule WQL28 the reporting officer recommended our submissions be rejected. However the reporting officer noted that Rule WQL28 would be deleted and its intent incorporated into Rules WQL25 and WQL26. We consider the incorporation of Rule WQL28 within Rules WQL25 and WQL26 to be appropriate and concur with the recommendation. It is noted, however that in Part 4 of the Officer's report "*Summary of changes recommended by staff to Chapter 4 – Water quality*" Rule WQL28 has not been deleted. We request clarification that the deletion of Rule WQL28 was in fact the intention of the Council officer.

WQL29

37. Council summarise our submission regarding Rule WQL29 as "*Retain Rule WQL29, but in Condition 1 replace the 100m³ total volume of effluent that may be stored on a property with separation distances*". The reporting officer has recommended that Condition 1 of Rule WQL29 read as follows:

1. The total volume of effluent or organic waste stored on a property:

(a) shall not exceed ~~100~~600 cubic metres;

38. Tegel and Brinks would like to confirm that the effluent within poultry sheds is not considered to be "stored". As the poultry industry does not store effluent on site Tegel and Brinks are not considered to be affected by the inclusion of an arbitrary volume within Condition 1 of Rule WQL29 and as such have no concerns with the above condition.

WQL31

39. Council summarise our submission regarding Rule WQL31 as "*Amend Condition 1 Rule WQL31 to increase the limit of 10m³/day to one that industrial poultry activities undertaken in an appropriate manner and subject to suitable standards and terms can be met*"

40. Further, the reporting officer states that the submitters "*seek an increase in the volume permitted, but do not provide a clear indication of the types or volume of discharge they want the rule to provide for, or what standards and manner of operation they consider is appropriate. In the absence of any detail on this, it is not possible to evaluate the merits of their request*".

41. With regards to the reporting officer's comments I would like to clarify the types and volume of discharges involved in industrial poultry activities. Brinks have confirmed that currently their wastewater discharge to land from their processing plants is approximately 200m³/day and that this discharge may increase in the future to up to 400m³/day. The composition of the wastewater discharged to land from the processing plants includes water, organic matter (such as blood) and cleaning chemicals. Brinks has confirmed that the residual levels of both the organic matter and cleaning chemicals are minimal due to the volume of water used in the process, which dilutes the concentration of other substances. Furthermore it is noted that all wastewater is filtered for solids through a feather tower prior to discharge.

42. It is considered that the Condition 1 of Rule WQL31 is arbitrary and subjective and that the volume proposed by Council is not effects based. Furthermore no technical justification for the volume in Condition 1 has been put forward by the Council.
43. The poultry industry considers that Conditions 2-7 of Rule WQL31 are acceptable and that the above conditions will effectively mitigate any adverse effects on water quality. In particular, Condition 2 will ensure no hazardous substances or hazardous waste will contaminate the land receiving the discharge. Conditions 3 and 5 which relate to the discharge rate and pooling of liquids, will ensure that the soil can adequately manage the volume of liquid being discharged. Conditions 4 and 6 will ensure that there is no runoff into water bodies and that there will be no adverse effects on aquifers. Furthermore Condition 7, which requires a record of the discharge to be made available to Council, will ensure the cumulative effects of the liquid discharges from industrial and trade processes are managed.

CONCLUSIONS

44. The poultry industry is a key part of New Zealand's primary production industry, and makes a significant contribution to the social and economic wellbeing of the Canterbury District and New Zealand. Canterbury region offers opportunities for the growth and expansion of the poultry industry, to meet increasing market demands. The industry requires a policy context that makes appropriate provision for its activities, is easy to work with, and gives clear guidance on what is expected of it.
45. It is considered that some of the Rules proposed do not provide for the above. Rule WQL26 includes a 20 metres setback control from artificial watercourses and a requirement to spray irrigate which will result in any new intensive farming activity or new discharge permit requiring non-complying or discretionary activity consent for washwater discharges to land. The recommended wording of Rule WQL26 has the potential to jeopardise any future growth or expansion of the poultry industry. In addition it is noted that the proposed 20 metre setback is inconsistent with Rule WQL24 and with the reporting officer's own recommendations.
46. Tegel and Brinks would like to confirm they have no further issue with Rules WQL23, WQL28 and WQL29 as amended.

47. With regard to Rule WQL24, we recommend an additional activity is included within the rule which provides for controlled activity status of a discharge if the discharge does not comply with Condition 3 of this Rule (which restricts the discharge frequency). We consider that a condition of consent such as nitrogen capping would effectively mitigate any adverse effects from discharging solid animal waste to production land. Alternatively an amendment to the rule to provide for a two month discharge frequency or replacement of Condition 3 with a nitrogen cap would suffice.
48. With regard to Rule WQL31, I have clarified the queries of the Officer's report and confirmed our support of Conditions 2-7 of the Rule. It is considered that Conditions 2-7 adequately mitigate any potential adverse effects on water quality. Furthermore it is considered that the arbitrary volume proposed by Council has not been explained and is not effects based.
49. I share many of the Council's concerns with water quality and I note that the submitters would be pleased to work with the Council to refine the Proposed Plan along the lines I have suggested.

Lee Caygill Marr

Bachelor of Arts from the University of Auckland, Auckland, New Zealand, and a Masters of Planning Practice (Honours) from the University of Auckland, Auckland, New Zealand. I am a Full member of the New Zealand Planning Institute.

DATE OF HEARING: 16 September 2008

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