

Decision No. A 225 /2003

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of a reference under clause 14 of the First
Schedule to the Act

BETWEEN **G BODLE**

(RMA 544/98)

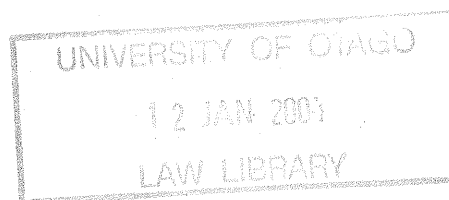
Referrer

AND **NORTHLAND REGIONAL COUNCIL**

Respondent

BEFORE THE ENVIRONMENT COURT

Environment Judge L J Newhook (presiding)
Environment Commissioner H A McConachy
Environment Commissioner R M Dunlop



HEARING at Whangarei on 17, 18 and 19 November 2003

APPEARANCES

G M D Bodle for himself
J A Burns for Northland Regional Council
H Atkins for NZ Fruitgrowers Federation, Potato Growers' Federation, and NZ
Vegetablegrowers Federation
V J L Moore and G Kent for Federated Farmers of NZ Inc
C Somerville for Carter Holt Harvey Limited and Juken Nissho Limited
A M White for Save Food Campaign and Z Grammer

INTERIM DECISION

Introduction

[1] This reference concerned the Regional Air Quality Plan for Northland, promulgated some years ago by Northland Regional Council, and recently operative

in all respects except as to matters the subject of this reference. The plan was made operative as a result of an order of the Environment Court approving it on 24 January 2003, it became operative to that extent on 31 March 2003 after approval by the Council.

[2] The reference by Mr Bodle was originally brought concerning six decisions of the Council on submissions. Over the course of time, five of those were settled, leaving the topic that underlay the matters the subject of our hearing:

That buffer zones be created around certified organic properties, inside which the use of chemical sprays be used only in accordance with the requirements of Organic Certification Standards insofar as the certified organic property is dependent on the environment as much as the certified organic property benefits the environment according to the purposes of the Act.

[3] At a mediation that led to settlement of some of the other matters in Mr Bodle's reference, the parties agreed on the need to refine this topic. They jointly sought an order of the Court under s.293 of the Act. In our decision granting that¹, we authorised refinement of the enquiry, and directed public notification and the service of a considerable number of persons and bodies identified for us by the parties as potentially having an interest in the proceeding.

[4] The referrer's request for the imposition of buffer zones to protect certified organic properties against the drift of chemical sprays was directed at rules² which authorise discharge of agricultural chemicals to air as permitted activities, upon stated conditions being met, from trade premises and "other" premises respectively.

[5] The focus in the hearing was on the latter rule because it encompasses agricultural and horticultural operations, but the two rules are nearly identical. We quote Rule 10.1.5:

10.1.5 The discharge of contaminants to air from agrichemical application by commercial users or contractors is a permitted activity provided that:

- (a) The person who will apply the agrichemicals has the following valid qualifications (GROWSAFE™ Certificates have a five year time frame):
 - (i) For a commercial user either a GROWSAFE™ Introductory (Standard) Certificate, or a GROWSAFE™ Applied Certificate, or an equivalent

¹ *Bodle v Northland Regional Council* Decision A116/02.

² Rule 9.1.9 and Rule 10.1.5 in the Air Plan.

qualification as determined by the Northland Regional Council.

- (ii) For a commercial contractor using ground based application techniques a GROWSAFE™ Registered Chemical Applicators Certificate, or an equivalent qualification as determined by the Northland Regional Council.
 - (iii) For a commercial contractor using aerial application techniques a GROWSAFE™ Pilot Agrichemical Rating Certificate, or an equivalent qualification as determined by the Northland Regional Council.
- (b) All persons applying agrichemicals shall have completed the requirements for achieving the appropriate qualifications specified in (a) of this Rule within 6 months of this plan becoming operative.
 - (c) The application is undertaken in a manner that does not exceed any rate, or contravene any other requirement, specified in the label instructions and published application recommendations.
 - (d) The application shall be undertaken in accordance with all mandatory requirements set out in Part 5 and Appendices Z, AA, and DD of New Zealand Standard 8409:1995, Agrichemical Users' Code of Practice, in order that the Best Practicable Option is implemented to avoid, remedy or mitigate any adverse effects of spraydrift beyond the target property.
 - (e) The property owner or manager shall keep records of agrichemical use in accordance with Section 5.9 of New Zealand Standard 8409:1995, Agricultural Users' Code of Practice, and shall make such records available to the Northland Regional Council on request. In addition the property owner shall keep relevant records of diluent and chemical rates.
 - (f) Notification is given in accordance with clause 5.1 or 5.2 of this Rule.

[6] Clauses 5.1 and 5.2, which follow, set out in some detail the public notification procedures required before spraying of roads, rail and other public places, and the requirements for individual notifications of owners/occupiers of "sensitive areas" adjoining private lands to be sprayed.

The Issue Notified and Enquired Into

[6] The public notification under s.293 undertaken at our direction, drew the attention of potentially interested parties to the reference and the two rules described, and advised that the Council sought their views as to whether buffer zones were an appropriate and practical means to control spraydrift, and if so, what the appropriate distances for the buffer zones should be to be incorporated in the rules.

[7] The notice further drew attention to Table Y2 in Appendix Y, NZ Standard 8409:1999 (Agricultural Users' Code of Practice) which sets out certain downwind buffer distances as a recommended (not mandatory) technique in the avoidance of unwanted spraydrift of agricultural chemicals. Table Y2 lists three application methods (boom sprayer, orchard sprayer and aerial application), and recommends minimum buffer distances with shelter in place, and alternatively without shelter in place. The recommended distances vary from 2 metres for a boom sprayer where shelter is in place, to 300 metres for aerial application where shelter is not in place.

[8] The notice went on to advise that the Council supported a modified version of that table. The key difference was to make the downwind buffer distances mandatory. The council's version of the table ("the notified version") is as follows:

- (d) The application shall be undertaken with a minimum distance between the downwind edge of the target area and the sensitive areas as follows:

Application Type	Distance (metres)	
	With Shelter	Without Shelter
Handheld spraying	2	2
Other Ground Based Spraying	2	10
Airblast Spraying/Aerial Application	100	300

(Table and distances proposed by Northland Regional Council)
In calculating these distances:

- (a) The equipment used shall be calibrated.
- (b) If shelter is relied upon, then the shelter shall comply with the recommendations contained in section Y6.2 of the Code of Practice for the Management of Agrichemicals NZS 8409:1999 and shall not have gaps in the base.
- (c) Aerial application at or above shelter height shall be considered without shelter.

The positions of the parties concerning proposed mandatory buffer zones

Northland Regional Council

[9] By the time the matter came on for hearing the Regional Council had in effect adopted three different positions in succession concerning this “permitted activity” rule:

- (a) The form of rule as first promulgated, quoted above (which relied on compliance with Part 5 and certain Appendices of NZ Standard 8409:1995 as a condition).
- (b) A change from reliance on those portions of the NZ Standard to compulsory buffer zones as in the modified table quoted above.
- (c) Reversion to its original position ((a) above) but with modifications recommended by its witness before us, Mr John Maber, including that Sub Rule (d) would refer to the newer 1999 Standard and would read:
 - (d) The application shall be undertaken in accordance with all mandatory requirements set out in Part 5 and Appendices V, and Y of New Zealand Standard 8409:1999, Code of Practice for the Management of Agrichemicals, in order that the Best Practicable Option is implemented to avoid, remedy or mitigate any adverse effects of spraydrift beyond the target property.

[10] During the course of the hearing the council also agreed with comments from the Court that other aspects of the rule would need tightening up in order to provide the degree of certainty and enforceability required for establishing permitted activities. We will describe these during the course of the decision.

[11] It will be noted that areas suggested for protection were widened from “certified organic orchards” in the reference, to “sensitive areas” in the notified version. “Sensitive areas” are defined in the Regional Air Plan as:

- residential buildings and surrounds
- school buildings
- amenity areas where people congregate
- public water-supply intakes
- water bodies, and associated riparian vegetation
- certified organic farms certified by BIO-GRO, CERTENZ, DEMETER, or an equivalent auditable standard
- herbicide sensitive crops such as grapes, tomatoes and kiwifruit
- insecticide sensitive crops that require pollination during flowering
- production forests

- areas of indigenous vegetation, habitat areas and reserves
- public roads

[12] As can be seen, areas suggested for protection were substantially widened from that being sought by the Referrer.

The Referrer

[13] The Referrer sought the imposition of a “default position” which, after we had dealt with some apparent inconsistencies, amounted to support for the suggested Rule as notified under s293. Effectively this meant that Mr Bodle was seeking the imposition of *no spray* areas, up to 300 metres in dimension, on properties being sprayed upwind of sensitive areas. He acknowledged that the vagaries of wind movement in Northland could have the effect of mandatory buffer zones of up to that dimension being imposed around all the boundaries of properties being sprayed.

Safe Food Campaign and Ms Grammer

[14] The extensive case put by Ms White on behalf of these parties, mainly through cross-examination of witnesses called by other parties, boiled down in the end to support for the notified version of the rule involving mandatory buffer zones. We say “boiled down”, because regrettably a substantial part of the information sought to be introduced by Ms White went well beyond matters within the jurisdiction of the case before us. They included an attack on the entire use of agrichemical sprays in New Zealand, a challenge to the NZ Standard, criticism of the people who had written the Standard, and criticism of the use of particular types of sprays. On a number of occasions throughout the hearing we had to remind her that it was not the function of the Environment Court operating under the Resource Management Act 1991, to act in the place of Standards New Zealand under the Standards Act 1988, or the Environmental Risk Management Authority (“ERMA”) under the Hazardous Substances and New Organisms Act 1996. To the extent that the enquiry concerned the Standard, our function is limited to considering principally such things as the certainty or otherwise of its provisions as parameters for permitted activities in the air plan rule.

The Fruit and Vegetable Growers Federations and the Forestry interests

[15] These parties called a range of highly qualified expert witnesses, largely in support of the Council’s final position as put forward by Mr Burns and the council’s

witness Mr Mabber. In particular they supported one of the rule modifications recommended by Mr Mabber, that property owners or occupiers conducting spraying should compulsorily promulgate **seasonal spray plans** or **annual spray plans**. Consideration was necessary to determine whether this apparently meritorious suggestion could be given effect to in the context of the reference and the notification under s293.

Federated Farmers of NZ Inc.

[16] At times, the presentation on behalf of this party appeared to amount to support for an uncontrolled situation, leaving matters to the “good sense” of spray operators, and the sanction of the civil law if damage occurred on neighbouring properties. In the alternative the Federation essentially supported the Council’s ultimate position as espoused by Mr Burns and Mr Mabber.

The Legal Regime: RMA 1991

[17] Distilled to their relevant essentials, the cases presented by the Referrer and Ms White’s parties, were that mandatory buffer zones should be imposed on all properties on which agrichemical sprays would be used in the Northland Region where those properties abutted sensitive areas. In the alternative they submitted that mandatory buffer zones be employed in circumstances where neighbours could not come to their own agreements. In support of this they submitted that the RMA requires “internalisation of adverse effects to the properties on which the spraying is undertaken”, and that the imposition of mandatory buffer areas is the clearest and most effective way to achieve this, particularly for the protection of certified organic growers nearby.

[18] Reference was made by those parties to the decision of the Environment Court in *Winstone Aggregates Limited v Papakura District Council*³ which concerned references about rules controlling the operation of quarries in rural areas.

[19] Leaving aside for the moment the issue of whether the imposition of mandatory buffer areas would be the most effective method, we address first their somewhat general assertion about “internalisation of effects”. We are bound to say that the administration of the RMA is a great deal more complex than that.

³ Decision number A 96/98

[20] A useful starting point in references concerning rules in proposed plans is often the decision of the Planning Tribunal in *Nugent Consultants Limited v Auckland City Council*.⁴ where the Tribunal said:

In summary, a rule in a proposed district plan has to be necessary in achieving the purpose of the Act, being the sustainable management of natural and physical resources (as those terms are defined); it has to assist the territorial authority to carry out its function of control of actual or potential effects of the use, development or protection of land in order to achieve the purpose of the Act; it has to be the most appropriate means of exercising that function; and it has to have a purpose of achieving the objectives and policies of the plan.

[21] Given that the focus of the Referrer and Safe Food Campaign in their cases was almost exclusively on protection of certified organic growers from the undoubtedly potential harmful effects of spray drift, it is necessary to remind ourselves about the definition of the purpose of the Act in Section 5. It is:

5.0 Purpose

- (1) The purpose of the Act is to promote the sustainable management of natural and physical resources.
- (2) In this Act, "sustainable management" means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while –
 - (a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
 - (b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
 - (c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.

[22] We have set the section out in full because the evidence we heard covered a number of aspects of it in addition to avoiding, remedying or mitigating adverse effects, and included in particular the enabling of people and communities to provide for their economic wellbeing, and also their health and safety, amongst other things.

[23] In the *Winstone Aggregates* decision, the Court recorded that one of the functions of the planning authority was to achieve integrated management of the effects of the use, development, or protection of land and associated physical

⁴ [1996] NZRMA 481

resources of the [district] through the establishment, implementation and review of objectives, policies and methods in order to give effect to the Act as set out in s31(a). It expressly recorded that integrated management requires that the constituent parts of a [district] should be considered in a fair and balanced way, consistent with the purpose of the Act. There followed a detailed discussion of the appropriate treatment of quarrying resources, and the need to protect surrounding sensitive activities from the effects of noise, vibration and flyrock. The Court noted that one of the guiding approaches of the RMA is “internalisation of effects as a way of avoiding, remedying or mitigating effects of an activity”. It was careful however to add that the approach is not absolute, and has been regarded by those charged with planning as one of a number of principles for integrated management. Having regard to the relevant features of the rural environment in Papakura District, the locations and nature of two existing quarries and some potential further rock resource, and the nature and location of surrounding land uses, the Court decided to place emphasis on the principle of internalisation of effects to achieve integrated management.

[24] Having regard to the relevant facts placed before us in the present case, as well as the wealth of expert opinion offered, we must record that it seems there is an important difference between controlling the use of agrichemical sprays in Northland, and controlling quarry activities in the Papakura District. That difference is the sheer extent of lands that might potentially be sprayed in the Northland Region, comprising most of the rural areas (pastoral, production forestry and horticultural) as well as roads, railways and public places. There is added complexity from the considerable variety of topography found in such a large region, as well as the range of meteorological conditions encountered throughout the year and on a day by day basis. Further, we are bound to take account of the evidence and expert opinion tendered concerning the several relevant aspects of Section 5, as well as some aspects of Sections 6 and 7 of the Act which inform it.

[25] We accept that in the context of the present case the avoiding, remedying, or mitigating of adverse effects on the environment is an extremely important aspect of s.5, especially given the nature of many agrichemical sprays which can be harmful to human and animal health, and to ecosystems. However we are also required to have appropriate regard for other aspects of Part II as we have said.

[26] Our duty, having drawn together those matters, will then be to consider what form of rule will best achieve the sustainable management of natural and physical resources as defined.

[27] The parties were agreed that the issues in the appeal did not extend to altering the status of the discharge of agrichemical sprays from being a permitted activity. (That is understandable, given that such activities are so much a part of daily life that regional councils would be faced with an impossible administrative task if applications had to be processed for spraying activities throughout their regions.) Rather, the debate was focussed on whether the conditions required to be met to achieve permitted activity status, should be by reference to parts of the NZ Standard, or whether instead there should be the imposition of mandatory buffer areas.

[28] The Referrer and Safe Food Campaign contended that the former would be inadequate and uncertain, and the parties who supported the use of the Standard, contended that the imposition of mandatory buffer areas would not be a “magic bullet”, and indeed would be crude, ineffective, uncertain, unenforceable, and would create great economic hardship on individual land owners in the region as a whole.

The NZ Standards

[29] The Referrer and Safe Food Campaign put in issue the appropriateness or otherwise of rules for a permitted activity referring to a NZ Standard as a yardstick.

[30] Since the Air Plan was first promulgated the 1995 Standard has been replaced by the 1999 Standard, and as previously mentioned reference would be to replacement Standard NZS 8409:1999. Both Standards were prepared by the NZ Agrichemical Education Trust (“NZAET”) for Standards New Zealand, and were approved as a Standard and released by the Standards Council under the Standards Act 1988. We have confirmed for ourselves that there is very little difference in the wording of Part 5 as between the two versions, although there are some differences as between the Appendices in them.

[31] First, as to appropriateness in law. *McIntyre v Christchurch City Council*⁵ was an appeal concerning whether or not consent should be granted to the siting of a telecommunications facility for a mobile telephone service. The applicant there contended that if the proposed facility should meet a certain NZ Standard concerning exposure to radio frequency radiation, it would pass muster concerning effects on the environment. In holding that compliance with standards is not decisive of that issue, and that a consent authority was not bound to use them as a basis for deciding a resource consent application, the Court nevertheless held that such standards are

⁵ [1996] NZRMA 289

often used for that purpose and are also referred to in district plans, as are other technical guidelines and standards.

[32] Examples of Standards that have been referred to in court decisions as serving such purposes, include Standards about radio-frequency radiation, engineering works, and measurement and assessment of construction noise, airport noise, and general environmental noise.

[33] We are in no doubt that published standards can sometimes helpfully be used as yardsticks. This may be done even if the purpose of the published standards is not of itself to promulgate rules of a directory or mandatory nature. (They will only acquire that character if the district or regional rules referring to them as a yardstick, give them that quality for the purposes of those rules). A question that will then remain is as to whether the published standards have sufficient certainty for the purpose of rule making, particularly where the activities regulated are described as permitted activities. We heard a considerable body of evidence and submission about this, and some care will certainly be required if the contents of NZS 8409:1999 or even just some of them, are to be used on this occasion as a yardstick.

Objectives and Policies of the Regional Air Plan

[34] The Regional Air Plan records, in Clause 6.4.3, as background information:

The use of agrichemicals is widespread in Northland in the horticultural, agricultural and forestry sectors. Agrichemicals are also used by local government in public parks and reserves, and in domestic gardens. There has been increasing concern at the "off-target" or "off-site" effects of agrichemical use when spray drift reaches sensitive environments other than the intended target. Spray drift may have adverse effects on human health and plant and animal health. There may also be problems for adjacent land uses such as organic farming, horticulture and cropping.

[35] Clause 6.5.4 of the Regional Air Plan records three **Issues** relating to agrichemical spray application. They are:

1. Off-target exposure to Agrichemicals which can have adverse environmental, health and amenity effects and which can also lead to economic effects due to crop damage on properties near the area being sprayed. Inappropriate application methods and choice of agrichemicals can also increase the task of adverse off-target effects.
2. The incompatibility of land uses arising from the spread of residential properties into horticultural areas, the diversification of mainstream farming into sustainable and less chemically dependent

forms of agriculture, and the increase in rural-residential settlements in farming areas, where the use of agrichemicals is common practice. These concerns are raised by both users and non-users of agrichemicals as well as by those residents and organic farmers seeking a "contaminant free" environment.

3. The use of agrichemicals of varying degrees of toxicity by applicators without adequate training.

[36] There is a **general objective** in Clause 6.6.1:

The sustainable management of Northland's air resource including its physical, amenity and aesthetic qualities by avoiding, remedying or mitigating adverse effects on the environment from discharge of contaminants to air.

[37] Supporting **policies** include:

- (6) Where necessary, apply the best practicable option to discharges of contaminants to air, while complying with the other policies in this plan.
- (7) To recognise that discharges of contaminants to air may adversely affect other receiving environments.

[38] Policy 6 is supported by a detailed explanation of the adoption of "best practicable option", including the need for the control of certain technologies, the need for flexibility and progressive upgrading of processes and the ability to consider methods that are alternative to blanket controls. It also refers in some detail to assessment of comparative benefits and risks.

[39] In our view the Regional Plan provisions just mentioned do not militate against either of the two approaches contended for in this case, but it is our view that they tend to favour the use of the Standards-type yardstick over blanket controls such as mandatory buffer zones if the former can be achieved satisfactorily in meeting the purpose of the Act.

Which of the two approaches is the more appropriate?

Approach in other regions

[40] Brief mention was made of some aspects of some approaches taken in other regional plans. We will not dwell on those, because they are not very instructive to

the issue before us. Importantly, the issue before us does not appear to have been the subject of court decisions.

[41] The only planner called to give evidence before us was Ms S M Harris, called by the forestry interests. She told us that the Auckland and Hawkes Bay Regional Councils have promulgated “no drift allowed” rules in their proposed plans, and that GROWSAFE™ compliance is used by nine out of 15 regional councils, but that none of them have promulgated compulsory buffer zones.

[42] We apprehend from the involvement in the case before us of the number of parties having interests throughout the country, that the decision in this case may be of interest and assistance to regional councils and other parties beyond Northland.

The nature of the proposed “Standards Control”

[43] In support of this method of control, the Respondent called the evidence of Mr Mabber (previously mentioned), a scientist holding considerable qualifications and experience. Mr Mabber specialises as a consultant in the fields of agrichemical and fertiliser use, sustainable land management, and agrichemical application. Concerning the latter field, his work embraces spray application systems, spray deposition trials, spray drift assessments and measurement of spray deposition, and airborne spray concentrations down wind of spray events. He is a technical consultant to the NZAET, contributed to the 1995 Standard, and undertook revision of the Standard for the 1999 version. He is or has been a member of a number of other relevant national committees and associations in the field, and runs the training programmes that accredit the trainers who deliver the courses that lead to the GROWSAFE™ certificates referred to in the Regional Air Quality Plan.

[44] Mr Mabber described the workings of the standard. He pointed out that portions of it employ mandatory wording (“shall”) and others advisory (“should”), and that the interpretation section, 1.2.3, points out this difference. The Appendices are intended to be informative, and to assist in achieving compliance with the mandatory requirements set out in the relevant parts.

[45] Part 5 is the key part. In particular Clause 5.8 provides:

It shall be the responsibility of any person applying agrichemicals to minimise the spray drift hazard taking into account weather conditions, equipment and application technique, sensitive areas, buffer zones and

shelter belts. In all cases however, users shall exercise the utmost care when applying agrichemicals.

[46] “Sensitive areas” are defined in Appendix Y (1999 edition). The definition of the term in the Regional Plan that we have previously set out, is taken from that definition.

[47] The approach in Part 5 can best be described as multifaceted. For instance, buffer zones are described as but one method to minimise the hazard from spray drift. Clause 5.8.4 provides:

5.8.4. Buffer Zones and Shelter Belts

Where appropriate buffer zones shall be used to minimise spray drift hazard to sensitive areas. All users shall be aware of the factors involved in determining the width of a buffer zone. Users shall not rely exclusively on buffer zones to eliminate spray drift hazard... [emphasis supplied]

[48] The Standard goes on to set out other means of minimising spray drift, including adjustment of spray volume, accurate calibration of equipment, correct operational procedures (particularly directing sprays at intended targets), correct nozzle selection, observance of weather conditions, and the option not to spray at all if conditions are unsuitable.

[49] As we have previously mentioned, the standard includes a table of recommended downwind spray buffer distances, but goes on to point out that distances may vary considerably depending on whether shelter belts are present, the nature of the equipment being used, droplet size, weather conditions, and other matters. These factors underpin the fact that buffer zones are not made mandatory in the Standard.

[50] We have previously noted that Mr Mabey made a recommendation of an important addition to the mandatory requirements from the Standard, being that all agrichemical users should be required to prepare and maintain a **seasonal or property spray plan**, and make it available upon request to neighbours and others. Through this means, he maintained, an agrichemical user would be required to demonstrate an acceptance of responsibility to minimise spray drift hazard.

[51] Mr Mabey reminded us of the contents of sub-rules 5.1 and 5.2 that we have previously described (5.1 relating to roads, rail and public places, and 5.2 relating to private properties). In 5.2 notices are required to be given either orally or in writing

either a stated short time before the carrying out of work **or** “can be in some other form such as an annual or seasonal spray plan”. The problems we see with sub-rule 5.2 are lack of directory quality, vagueness, and too much flexibility. These features mean that the sub-rule falls short of what is required for identification of permitted activities, and underpin Mr Maber’s own concerns.

[52] Mr R G Kempthorne is another specialist agrichemical scientist, called by the fruit and vegetable growing interests. He is a trustee of NZAET and a member of other national committees concerning agrichemical use. He supplemented the evidence of Mr Maber about the purpose and function of the Standard, provided us with a description of the GROWSAFE™ training, told us of the importance of agrichemicals for market access and quarantine issues, described best practice for spray application to avoid spray drift, and told us more about the use of property spray plans. He advised us that the mission statement of NZAET is “to facilitate the approved and safe use of agrichemicals in NZ consistent with effective, sustainable land management and environmental protection through advocacy and education”.

[53] GROWSAFE™ training programmes, he said, are made available for applicators, owners/managers, ground and aerial contractors, and distributors. Trainers have to undergo training before they are accredited to deliver the courses. The courses are designed to ensure that users of agrichemicals understand the contents of the standard.

[54] As to the need for the use of agrichemicals, and the importance of them for market access and quarantine issues, Mr Kempthorne told us that market access, particularly in offshore markets, can be denied in circumstances where:

- Weeds, pests, or diseases physically damage a product
- Certain pests are a quarantine issue for importing countries
- Countries may deny access to all products from another country because of the existence of certain quarantine pests.

[55] Mr Kempthorne described a practice known as **integrated pest management** (“IPM”) practised by many growers. In the interests of minimising the use of sprays, owners identify critical times for agrichemical control rather than use them regularly or constantly without a particular need being identified. This can lead to the need for application of agrichemicals within a very short time period from the observation of certain pests or diseases.

[56] Mr Kempthorne described to us the range of techniques for avoiding spray drift hazard, noting that the topic can be both contentious and emotional. He described to us the techniques of avoiding unfavourable wind directions, ensuring shelter belts of certain physical qualities are present, and employing buffer zones of differing dimensions depending on many factors to do with equipment, weather conditions, shelter and the like. He also dealt at some length with the issues of notification and property spray plans, noting that every spray plan would be unique to a particular property and its neighbours, and would change from time to time as technologies changed, crops changed, and the activities of neighbours changed.

[57] The fruit and vegetable grower interests called Dr D Manktelow, a specialist in applied disease management and agrichemical use and application. Dr Manktelow's PhD studies focussed on developing techniques to predict spray deposits resulting from ground applications to tree fruit canopies on the basis of sprayer operational parameters and the features of different canopy spray targets. He described to us the potential for spray drift inherent in different methods of spray application, and the critical differences between ground-based and aerial spray application methods that mean that they cannot be classified as methods in common. He addressed weather conditions, spray droplet sizes, and height above ground relative to target. He emphasised that spray drift does not occur necessarily as a function of a particular type of sprayer, but rather as something that will occur as a function of the way a particular sprayer is used. In addition to his concern that mandatory buffer zones are crude and inappropriate, he felt that the detailed control and guidance available from the Standard would lead to greater accuracy, and lower the risk of spray drift in comparison.

[58] Dr Manktelow described the practice of IPM, the work of staff who are trained concerning pests and diseases and who spot the arrival of them, and the work of spray operators in accordance with the Standard. A fruitgrower, Mr R Curtis, and a vegetable grower Mr A de Bruin, gave similar evidence.

[59] The forestry interests called the evidence of Ms Harris, Mr G F Dods a forestry operator of long experience at Carter Holt Harvey, and P W Tolladay, operations manager at Juken Nissho Limited in Northland (also of long experience in planning and supervising aerial spraying operations). The forestry interests have very substantial forestry areas under management, and extensive (and increasing) areas of sensitive uses around their boundaries. They have developed extremely sophisticated spraying plans and operations, both in connection with preparation of

land for planting, and then control of disease in forests. Much of their spraying is by aerial means, and they tend to hire only the best operators with the most sophisticated equipment and systems. Mr Dods provided us with considerable detail about modern computerised spraying technologies, and equipment. He also described the use of weather stations, smoke bombs to indicate wind direction, and other sophisticated equipment.

[60] These interests employ GROWSAFE techniques, and create detailed property spray plans for various parts of their properties from time to time.

[61] All of the witnesses just described claimed high success rates in avoidance of spray drift problems and consequent complaints.

Alternative Method of Control Advocated

[62] The referrer Mr Bodle, and a witness called by Ms White, Mr P J Clark, were the only witnesses effectively addressing the “other side of the coin”. They provided us with information about the dangers of spraydrift beyond target, particularly for organic growers, an aspect of the case which was not really in contention between the parties. They also quite fairly acknowledged that failure to eradicate pests, diseases and weeds, can produce sources of future problems (for instance “seed nurseries” for weeds).

[63] While Mr Bodle was inclined to focus on the basis of the need for spraydrift avoidance, it was Mr Clark who provided the only evidence about problems said to have occurred from spraydrift while operating pursuant to the Standards. The difficulty with Mr Clark’s evidence was that it was brief, and extremely inspecific. It was done by way of mentioning certain scientific reports, most of which were not placed before us, and anecdotal mention of some cases that he said he had investigated as a person holding certificates and diplomas in rural studies, agriculture and GROWSAFE training. He had also, we learnt during cross-examination, employed his skills as a former police officer in conducting those investigations.

[64] Ms White endeavoured to have Mr Clark make up for the absence of any direct evidence about problems with the use of the Standards, by asking him supplementary questions about particular cases he had investigated. She attempted this despite it having been made very clear to all parties during earlier case management by the Judge over many months that all detailed evidence and exhibits

were to be exchanged fully by certain dates well ahead of the hearing. Ms White had to concede that to call such evidence now, orally, would leave the other parties in the position that they had not had the opportunity to consider it, to locate witnesses, and to call rebuttal evidence. She ultimately came to accept that we could not receive the evidence in that way due to the unfairness to other parties, and we think she ultimately came to accept that the nature of our enquiry was one dependent on our receiving first-hand factual evidence coupled with expert opinion, and that we could not place great reliance on anecdotal descriptions of events, and on scientific reports prepared by authors not called to have their evidence tested before us (or in reports described by other duly qualified scientists who could be questioned on them).

[65] In any event, we formed the impression from what we did hear, that such events as Mr Clark commenced to describe, had occurred some years ago (mid 1990s) and were not numerous. That was certainly the submission made by various counsel who supported the use of the Standards, and we have no basis other than to accept that.

[66] Summarising this topic, we heard considerable evidence from owners, growers, operators, and scientific advisors, as to the workability of the Standard and its success in controlling spraydrift to minimal proportions. There was no direct evidence to the contrary. Even if we were to infer that the parties supporting the use of the Standard had clearly chosen as witnesses, only operators with impeccable records and well-designed spray plans and systems, we must hold on the evidence overall, that we have the impression that the Standards, training, methods, systems, and equipment are all being continually refined to the end that quantities of sprays and the numbers of occasions on which they are used, are being lessened for sound commercial and scientific reasons. It also seems to us that as systems, equipment and methodology improve, incidents of adverse effects on the environment from agrichemical sprays (such sprays being substances that are often potentially quite dangerous or deleterious) is producing positive results.

Are fixed buffers necessary or appropriate?

[67] The concept of mandatory downwind buffer areas against spraydrift has some apparent appeal at first blush. However, the detailed evidence, including answers given in cross-examination by many witnesses, revealed significant shortcomings. Even Mr Bodle and Mr Clark were forced to concede that they are somewhat crude

and arbitrary in their operation, and may even, on occasion, be inadequate if no other care is being taken of the kinds laid out in the Standard.

[68] The first, and quite obvious problem, is the question of what is meant by “downwind”. Mr Clark conceded in questioning that winds in Northland can be shift, and can oscillate significantly about a mean compass direction, especially when fresh or strong. He also conceded that wind directions in Northland can change rapidly, even several times in a day. On being asked by the Court how we might define “downwind”, he conceded that it would be “the full circumference, or 360° in practice”. He also admitted that there could be a problem of proof of actual wind direction if complaints were contemplated and enforcement proceedings brought.

[69] As we see the problems, they may either be as to proof (to the disadvantage of complainants) or the adoption of a very cautious approach by operators, resulting in spray buffer zones around significant portions of the boundaries of any given piece of land (to the disadvantage of the owner wanting to spray).

[70] Mr Maber and Mr Kempthorne each described to us in detail how buffers employed on a voluntary or informal basis could vary significantly depending on equipment used, meteorological conditions, and other procedures and factors described in the Standard. In effect they were advancing the view that large mandatory buffers would be extremely unsophisticated and significant overkill. Dr Manktelow’s evidence about the details of spray equipment (aerial, motorised, or hand-operated) confirmed their views. Dr Manktelow opined that the imposition of a 100-300 metre buffer zone for air blast spray applications in orchards would force orchardists to revert to handgun operations within the buffer zone, and that as handgun spraying of trees still requires that a portion of the spray plume be directed upwards, the risks of spraydrift from handgun applications would not necessarily be lower than those associated with air blast application. A significant area of land could therefore still effectively be off-limits for spraying.

[71] Mr A Harty, technical manager for a major fruitgrower with particular responsibility for agrichemical spraying, and Mr T Haywood, an experienced horticulturalist from Awanui, spoke in some detail about particular pests and diseases and the real dangers for their operations and for those of their neighbours as well, if significant “no-spray” areas were required to be established around the perimeters of orchards. They spoke of the consequences as downgrading in quality

of fruit, impact on export markets, and the serious reduction in financial return that would occur. They calculated that very significant areas of orchards could be seriously affected by inability to spray in mandatory buffer zones.

[72] Federated Farmers called the evidence of Mr G McCallum, a farmer at Maungaturoto. Mr McCallum holds a Bachelor of Agricultural Commerce, operates a share-milking business on 240 hectares, and manages a sheep and beef business on an adjacent 627 hectares. He told us that these farms were typical of many in Northland in terms of topography and weed pest management issues. The total length of boundaries on his farm is 15.4 kilometres; and there is no shelterbelt around the property. 15.4 km of 10 metre buffer would be 15.4 hectares; 15.4 km x 300 metres would produce 462 hectares; the latter would be 73% of the property. He said that adopting the latter example would mean that only a small strip in the middle of the land could be sprayed by helicopter. Much of the rest would have to be done by hand spraying because the topography on most of it is moderate to steep and not safe for vehicular spraying. He considered the suggested buffer areas would become a seedbed, and while they could be grazed, weed-infested pasture is much less productive than pasture with no weed infestation, cattle being loath to eat weeds such of gorse and ragwort. Helicopter spraying is conducted at the moment for thistles and gorse. Gorse spraying can be almost never-ending because gorse seed survives for a long time in the soil. Gorse is a particular problem on the steeper sheep country, and aerial control is the only way to combat it there.

[73] The forestry witnesses described the considerable areas of their land that could not be used productively if unable to be sprayed by the highly accurate helicopter systems they presently employ.

Economic effects

[74] The fruit and vegetable interests called the evidence of Mr S J Ford, an agribusiness consultant with a Diploma in Agriculture, and Bachelor of Agricultural Commerce, who has undertaken post-graduate studies in agricultural economics, resource economics, and project evaluation. He has been a consultant in the primary industry sector for 20 years specialising in economics and business analysis. Mr Ford described to us the importance of timely use of agrichemicals and horticulture in Northland, described the IPM system that others had given evidence about, gave examples of different types of pests and diseases in fruits and root crops, and spoke of the export and other market consequences that confronted growers if

proper controls were not employed. He considered that "*minimum distances between the downward edge of the target area and the sensitive area*"...meant that the buffer zones would become operational at times of wind movement from the place of spraying to any adjacent sensitive area. He considered that because the proposed table indicated that the suggested minimum distance for air blast spraying or aerial application, with shelter, would be 100 m, and that as the majority of time critical spray operations are either by aerial or air blast spraying, his analysis of affected land areas should logically be based on a broad assumption of a 100 m buffer.

[75] He next considered tables of wind flow obtained from NIWA's National Climate Database, offering wind flow data from recording sites at Kaitaia, Kerikeri and Whangarei. Using the data, he attempted to calculate the extent of time in any season when conditions might be suitable for spraying. For instance, in the spring, in daylight hours between 6am and 6pm, the percentage of time when there is little or no wind is 27% for Kaitaia, 25% for Kerikeri and 13% for Whangarei. Spring is the most critical time for spray operations. He considered on the figures that there was very little confidence for growers that they could achieve **timely** use of agrichemicals within the window of opportunity when one took account of the fact that IPM systems necessitated urgent or timely intervention. Mr Ford also mentioned the potential for cross-infection of pests and diseases from an unsprayed area into a sprayed crop, meaning that the adoption of minimum distances as proposed would create an even larger area of spoiled produce, and effectively preclude from growers the use of any land that was time-critical in the agrichemical sense.

[76] Mr Ford presented us with a table showing calculations of areas of orchards that could be affected by a 100 m buffer zone. The table showed calculations for orchard areas of 2, 5, 10 and 20 hectares, with both rectangular and square-shaped examples. Examples chosen from that table show that a 2-hectare rectangular property with sensitive uses on one side would have 50% of its area affected, and with sensitive uses on two to four sides, would be 100% affected. A 20-hectare square property with one side affected would have an area removed from spraying of 22%, with two sides affected, 40%, and with four sides, 69%.

[77] Mr Ford then opined that the financial impact on individual businesses would be in two forms, loss of annual profit, and loss of capital value. Using tables, he offered examples of financial loss on an Earnings Before Interest and Tax (EBIT)

basis. He demonstrated the potential for significant loss of this kind. Further, given that the value of most horticultural properties is determined by the productive capacity of the land (for instance kiwifruit orchards are generally sold on a “value per tray of kiwifruit produced”), there would be significant capital losses to the owners of those properties.

[78] Mr Harty, technical manager for Kerifresh Limited at Kerikeri, described the large areas under cultivation by the company in various fruit trees, and calculated loss of productive area in a similar fashion. He described the potential for losses to the tune of many millions of dollars in foreign exchange. It could be seen from his evidence that the jobs of a notable percentage of his company’s 350 fulltime staff equivalent could be at risk. Mr Haywood, a horticulturist at Awanui, offered evidence of the potential for losses in excess of \$1m annually.

[79] None of these statements were challenged in cross-examination. Understandably however, Ms White did ask questions of some witnesses about the potential for loss to organic growers if their crops were damaged by spray. It appeared to be common ground among the parties that prices for organic produce on a “per unit” basis are greater than for non-organic, but that production from organic properties in Northland is very significantly smaller than from non-organic. We find that we do not have to balance these interests and issues because of our finding in this decision that a properly constructed rule using the Standard as a yardstick will be an appropriate tool for limiting harm to minimal proportions.

[80] Mr Ford also gave evidence based on some rather general assumptions, about potential regional losses in dollar terms. This analysis was somewhat speculative but we have no difficulty in accepting that horticultural operations are high in labour usage; that reduction in productive areas would result in job losses, and also that Northland already suffers from high levels of unemployment which it would be undesirable to exacerbate.

[81] We have no hesitation in finding that to impose mandatory buffer zones, without good reason, and in the light of the evidence that they would be difficult to manage and enforce, arbitrary, and even on occasion inadequate to offer protection to neighbouring properties, that they would be contrary to the purpose of the Act in section 5 in the several respects we have considered.

Can Rules 9.9.1.9 and 10.1.5 be drafted to provide the necessary certainty?

[82] Remembering that the two rules are almost identical, we will focus the discussion that follows, on Rule 10.1.5. Its introductory words are:

The discharge of contaminants to air from agrichemical application by commercial users or contractors is a permitted activity provided that:

[83] In paragraph [5] of this decision we set out the first half of the rule, and in paragraph [6] we described the second half of it (clauses 5.1 and 5.2). Those latter provisions, it will be recalled, concern themselves with notification and with spray plans.

[84] Turning to the portion quoted in our para [5], the first problem we perceive is the wording that appears at the end of each of (i), (ii), and (iii): "*or an equivalent qualification as determined by the Northland Regional Council*". There is in that phrase a quality of rule making that does not give certainty. It purports to reserve to the council the ability to make rules other than through the public processes in the First Schedule of the Act. That is unlawful. The words will have to be deleted.

[85] The question then arises as to whether those words can be replaced by others. Our ability to direct that the rule be changed to nominate other certification systems, would depend in part on the extent to which we had been offered evidence of such. We were not offered reliable evidence that would enable us to do that. Mr Clark did briefly mention some organic certification processes while he was being questioned, but we do not have sufficient evidence about them to know whether they are suitable. To the limited extent that we heard any detail about them, they appear to rely significantly on the imposition of mandatory buffer zones, a feature that would militate against the use of them based on our findings about that technique.

[86] That would leave the rule in a form nominating just one proprietary system. Opponents of the use of the Standard endeavoured to offer evidence that the authors of the Standard, NZAET, had some sort of conflict of interest because the trustees are drawn largely from agrichemical interests and groups like some of the parties before us who supported the use of agrichemical sprays. It was suggested to us that in some way the Standard was wanting, as also was the GROWSAFE training system, because of this alleged conflict of interest. We told the parties, and reiterate here, that the Standards Authority, not the Environment Court, is the body to whom such concerns and considerations should be addressed. The Court is presented with

a Standard that has been promulgated and confirmed under the Standards Act 1988, and the issue for us is as to whether reference to it as a yardstick will provide sufficient certainty and assist in serving the purpose of the RMA. We cannot accept the criticisms.

[87] The three subparagraphs should be modified by deletion of the offending words, and they are not to be replaced by reference to any other organisation or method at this time. Should the council identify other suitable organisations or methods in the future, it can move to include them in the rule by way of a plan change or during review of the plan (and indeed we encourage the Council to keep abreast of improvements in the Standard and other methods and technologies, and to update the rules from time to time to take account of them).

[88] We next turn our attention to subparagraph (b) which reads:

All persons applying agrichemicals shall have completed the requirements for achieving the appropriate qualifications specified in (a) of this Rule within six months of this plan becoming operative.

[89] This provision causes us to ask "*what about the unfortunate person receiving training for the first time after the plan has been operative for six months*". We heard a suggestion that the rule was drafted in 1995 to encourage the industry to work to overcome a shortage of suitably trained spray operators. While there may have been a shortage then, there is apparently no problem now with the availability of such people. The words "*within six months of this plan becoming operative*" are to be deleted.

[90] Sub rule (d) makes reference to the 1995 Standard. It is appropriate to replace it with reference to the 1999 Standard. It also referred to persons being required to meet the mandatory requirements set out in Part 5, and Appendices Z, AA, and DD. While Part 5 remains and is little changed in the 1999 version, the lettering of the Appendices has changed, and one Appendix has been deleted. Appendices in the 1999 version that we consider merit some kind of reference in the rule are N (Notification and Signage for Application of Agrichemicals), T (Application Equipment and Spray Categories), V (Calibration of Application Equipment for Registered Agrichemicals), Y (Drift Hazard and Weather Conditions), DD (Agrichemical Use Training), HH (Product Formulations), and JJ (Definitions). We consider that there should also be reference to the Introduction to the Appendices, and to Part 8 of the Standard concerning training.

[91] We seek further input from the parties as to the manner and extent of incorporation of reference to these various provisions. It occurs to us that some will be mandatory in the sense that they have to be complied with, but in respect of others, the mandatory aspect will be that consideration be given to them, and that the extent and manner of proposed use of them be discussed in notifications and spray plans. There will also need to be a statement in the rule that in the case of any conflict between the Regional Air Plan, and any provisions of the Standard, the former will prevail.

[92] We particularly mention the provisions in the Standard about training (Part 8 and Appendix DD) because we are minded to give consideration to strengthening the provisions in the sub rule (a) about training and certification, by more detailed reference to appropriate parts of them.

The rules about notification and spray plans

[93] We have previously mentioned sub rule 5.1 and 5.2. For convenience, we set them out here:

5.1 Where agricultural chemicals will be applied to more than two hundred metres of public road, rail or public place, continuously or intermittently, notice of intention to spray must be given in local newspapers or by door-to-door advice and appropriate street signage, excluding railway verges, to occupiers of properties or premises within 30 metres of the area to be sprayed at least one week and not more than one month before application and must include the following information:

- (a) The property and area to be sprayed.
- (b) The date(s) and general time(s) of the spraying, and in case of poor weather conditions, and [sic] alternative dates and general times for spraying,
- (c) The brand name and chemical name to be used,
- (d) Method of application,
- (e) Safety precautions to be taken, and
- (f) The contact name, address and telephone number of the owner/manager of the area to be sprayed.

Vehicles or equipment applying agrichemicals must display a sign stating "agrichemical" (herbicide/insecticide/fungicide) application in progress" and name of the contractor. A record of this notification must be kept and made available to the Northland Regional Council on request.

- 5.2 Except as provided for in Chapter 10.1 Permitted Activities Rule 5.1, where agricultural chemicals will be applied except by non-motorised hand-held methods to any place, the responsibility of giving notice of intention to spray in reliance of Chapter 10.1 Permitted Activities Rule 5 (above), lies with the owner/occupier of the property being sprayed to the owners or occupiers of land containing sensitive areas adjoining the area to be sprayed.

Notice shall be given either orally or in writing,

- not less than eighteen hours and not more than two weeks before the proposed commencement of the work, or
- can be in some other form such as an annual or seasonal spray plan.

This notice, or annual or seasonal spray plan, must include but is not limited to the following information:

- (a) The property and area to be sprayed,
- (b) The date(s) and general time(s) of the spraying, and in case of poor weather conditions, any alternative dates and general times for spraying,
- (c) The brand name and chemical name to be used.
- (d) Method of application.
- (e) Safety precautions to be taken, and
- (f) The contact name, address and telephone number of the owner/manager of the area to be sprayed.

A record of this notification must be kept by the property owner/manager and made available to the Northland Regional Council on request.

Notification shall not be required from parties who have agreed in writing that it is not required.

[94] Almost all of the witnesses, with the exception of Mr Dods from Carter Holt Harvey, strongly supported a requirement for the promulgation of annual or seasonal spray plans, and making them available to appropriate persons. Mr Dods agreed with the requirement to prepare them (which his company does now), but felt that it would be an unnecessary burden on operators such as his company to supply them on request to owners or occupiers of sensitive areas. We are not inclined to accept his concern.

[95] Towards the end of the hearing we raised with the parties that owners of major infrastructure such as highways, railways, roads, and public places, might find the spray plan requirement a major imposition. We also wondered whether the

requirement for such bodies to prepare and promulgate spray plans had been adequately raised in the reference or in the s.293 notification, and might not therefore be within the jurisdiction of the case before us.

[96] There is no need in our view for further notification under s.293. Sub rule 5.1 provides a workable and fair degree of public notification by proprietors of major infrastructure in public places. It might be thought desirable that such entities should prepare spray plans, but that is a matter that can reasonably be left for further consideration in due course by the council, at the time of any further change to the rule, or the next review of the plan. Sub rule 5.1 does require alteration, however, to clarify the extent of spray application that triggers the notification requirement. An alternative introductory wording was provided during the hearing by counsel for the Regional Council, and subject to one minor modification (in bold below), it satisfactorily redresses the problem identified by the Court. The sub rule should be amended to commence:

*Where agricultural chemicals will be applied, **in accordance with Rule 5 above**, to an area of more than two hundred metres in length on any public road, rail reserve or public place, continuously or intermittently, notice of intention to spray must be given...*

[97] Sub rule 5.2 we have already described as too vague and uncertain. We refer in particular to the provision that notice may be given either orally or in writing, and “can be in some other form such as an annual or seasonal spray plan”. We recognise the desirability of oral communication between neighbours, and timely reminders to them close to the time of spraying. We consider however that the requirement to prepare an annual or seasonal spray plan should not be optional, but mandatory, and we consider that we have power to direct such change under s.293 RMA, without the need for further public notification to be undertaken. We require the parties to provide written submissions on such amendment to the rule, bearing in mind the recommendations made by Mr Maber in his evidence. We note that sub rule 5.2 already provides some detail, but we consider that that should possibly be augmented.

Conclusion

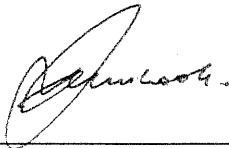
[98] Taking account of our findings in this interim decision, we ask the parties to confer and endeavour to agree modifications to the rules in question. The council

should take the lead in providing a first draft after consultation. We wish to receive an agreed version by the end of February 2004. If agreement is not possible, we wish to receive a draft so far as the parties have been able to agree it, with succinct submissions by any party wishing to comment on provisions not agreed.

[99] Costs are reserved, but as is the usual practice concerning references, are unlikely to be appropriate.

DATED at **AUCKLAND** this 22nd day of December 2003.

For the Court



L J Newhook
Environment Judge