

Regional Air Plan
for
Manawatu-Wanganui



Cover Photograph
Taken at Manunui water tank, looking at Mahoe
Taken by Hayden Spencer, Taumarunui

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REGIONAL AIR PLAN

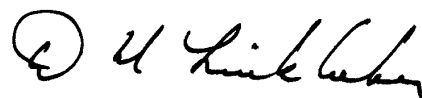
This Regional Air Plan was prepared by the Manawatu-Wanganui Regional Council under Section 65 and the First Schedule to the Resource Manawatu Act 1991.

The Manawatu-Wanganui Regional Council approved the Manawatu Catchment Water Quality Regional Plan on the day of 1998.

Signed by the Manawatu-Wanganui Regional Council by the affixing of its Common Seal in the presence of



ER Dempsey
GENERAL MANAGER



DM Linklater
CHAIRMAN

The Regional Air Plan became operative on 30 January 1999.





FOREWORD

The high quality of air in the Manawatu-Wanganui Region is important to the people of this Region. This Plan has been prepared to provide for the sustainable management of the Region's air resource. It contributes to our vision for a safe and healthy environment where people and communities, in pursuing their cultural, economic and social aspirations, live in harmony with the natural environment and where the effects of pollution on air are minimised.

The Regional Air Plan has been prepared to remove much of the bureaucracy that applies to minor discharges to air from industrial and trade premises. Our Region has very few industries that have the potential to cause significant adverse effects on air quality and has climatic conditions that favour rapid dispersal of most minor discharges. After extensive consultation throughout the Region, the Council has adopted a resource management framework for air quality that is consistent with the issues that are of concern to our communities. This consultation has been with tangata whenua, with industry and other people likely to be affected by the provisions in the Plan, with district council staff, and with the wider community.

It is our intention that this Plan provides the best possible framework to achieve our objective of maintaining and enhancing air quality in the Region, and having ambient air quality that does not adversely affect human health, animal and plant health, amenity values and cultural values.



Don Linklater
CHAIRMAN





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PART ONE BACKGROUND

1. Introduction

The Manawatu-Wanganui Regional Council has prepared the Regional Air Plan under the provisions of the Resource Management Act to address the environmental effects of discharges of contaminants to air in the Manawatu-Wanganui Region. The Plan applies to discharges to air throughout the Region, except the coastal marine area.

Activities in the coastal marine area are controlled by methods in the Regional Coastal Plan for Manawatu-Wanganui Regional Council 1994. Discharges to air from ships or off-shore installations will be provided for by regulations promulgated under the Marine Transport Act.

The Plan is divided into five parts. Part One, Background, is about the need for a regional plan and its statutory framework. Part Two, Resource Description, is a description of air quality in general and values associated with air quality in the Region. Part Three, Air Quality Management, contains the air quality issues in the Region, and the policies and methods, including rules, to address those issues. Part Four describes the environmental monitoring of the resource and the review timetable for the Plan. The process and requirements for resource consent applications are in Part Five. The planning process used for the development of this Plan is described in Proposed Regional Air Plan Background Report, which is available separately.

1.1 The Region

The Manawatu-Wanganui Region (see Figure 1) covers a land area of 22,179 km² in the lower central North Island. The Manawatu-Wanganui Regional Council (the Council) administer the Region with seven territorial authorities. These are the Horowhenua, Ruapehu, Rangitikei, Manawatu, Tararua and Wanganui District Councils and the Palmerston North City Council. Parts of Stratford, Waitomo and Taupo District Councils are also within the Region.

Approximately 232,500 people live in the Region. Nearly half this population live in the two major urban centres of Palmerston North and Wanganui. A further 20% live in smaller urban centres including Levin, Taumarunui, Feilding, Dannevirke, Marton, and Taihape. Predominant land uses in the Region are sheep and beef farming, dairying, horticulture, and some forestry. Horticulture is a common land use in the Horowhenua District. Twelve percent of the land in the Region is Department of Conservation estates or national parks. Tourism is popular in these areas.



2. Legislative Framework

2.1 Resource Management Act, 1991

The statutory framework for managing air quality and for controlling discharges to air is the Resource Management Act, 1991 (the Act). The Act is guided in particular by Part II which contains the Purpose (section 5), Matters of national importance (section 6), Other matters (section 7), and Te Tiriti o Waitangi (section 8). Assessment of every resource consent application for an activity restricted by the Act or by a regional or district plan is subject to Part II.

Some sections of Part II are of particular relevance to Maori. These are Section 6(e), relationship of Maori and their culture and traditions with taonga; Section 7(a), the expression of kaitiakitanga over resources (air); and Section 8, the application of relevant Treaty of Waitangi principles to resource consents when dealing with air discharge issues.

The Council must follow provisions in the Act when preparing regional plans. Of particular relevance are the functions of regional councils (Section 30); the duty to consider alternatives, assess benefits, costs etc (Section 32); Sections 63 to 71, which deal specifically with regional plans; the Second Schedule to the Act; and any relevant regulations made under the Act.

Section 66 of the Act requires that during the preparation of this Plan the Council has regard to any management plans and strategies prepared under other Acts (such as Conservation Management Strategies), any relevant planning document recognised by an iwi authority affected by the regional plan, and any regulations made under the Act.

Air quality can be affected by the use of land, and by discharges to air or land. Air quality management is therefore influenced by Section 9 of the Act, which restricts land use matters, and Section 15 of the Act, which restricts discharges of contaminants into the environment. Section 9 matters are the responsibility of both district and regional councils, while Section 15 matters are the responsibility of regional councils. These provisions give regional councils the principal role in the management of air quality; district councils also have a function through the control of land use.

The control of any actual or potential effects of the use, development, or protection of land is a function of district councils under Section 31 of the Act. The control of discharges of contaminants into air is a function of regional



councils under Section 30(1)(f) of the Act. Regional councils are the consent authority for activities that would otherwise breach Section 15, which includes the restriction:

“15(1) No person may discharge any-

...

(c) Contaminant from any industrial or trade premises into air; or ... unless the discharge is expressly allowed by a rule in a regional plan and in any relevant proposed regional plan, a resource consent, or regulations.

“(2) No person may discharge any contaminant into the air, or into or onto land from—

(a) Any place; or

(b) Any other source, whether moveable or not,—

in a manner that contravenes a rule in a regional plan or proposed regional plan unless the discharge is expressly allowed by a resource consent or allowed by section 20 (certain existing lawful activities allowed).”

Transitional provisions for the discharges of contaminants into air are in Section 418 of the Act. Section 418(1) exempts any discharge from an industrial or trade premise that would not have required any licence or authorisation under the Second Schedule of the Clean Air Act 1972 from the restrictions in Section 15 (1)(c), unless an operative regional plan provides otherwise. The transitional provisions expire on 30 September 1996. The Schedules of the Clean Air Act are reproduced in Annex A.

Discharges of contaminants to air from premises used for the storage, transfer, treatment, or disposal of waste materials or other waste-management purposes or for composting organic material, that commenced after the 1st day of October 1991 are not included in the exemption provision above. These discharges are restricted by Section 15(1)(c).

These transitional provisions mean that, until this Plan is operative and provides otherwise, the requirement for a resource consent for any activity on an industrial or trade premise involving a discharge to air is determined according to that activity’s classification under the Clean Air Act regulations. These regulations defined processes such as fellmongery processes involving sulphides as Part A, dry abrasive blasting as Part B, and combustion in fuel burning equipment having a rate of heat release exceeding 40 kW as Part C. Any activity established after the 1st of October 1991, that falls under one of these three classifications requires a resource consent, assessed under the provisions of the Resource Management Act.

2.2 Health Act, 1956

District councils have responsibilities for air quality management under the Health Act 1956. Section 23 of this Act states:

23. *General Powers and duties of local authorities in respect of public health-*

(c) If satisfied that any nuisance, or any condition likely to be injurious to health or offensive, exists in the district, to cause all proper steps to be taken to secure the abatement of the nuisance or the removal of the condition:

Section 29 of the Health Act defines nuisances for the purposes of the Act. These include:

(a) Where any pool, ditch, gutter, watercourse, sanitary convenience, cesspool, drain, or vent pipe is in such a state or is so situated as to be offensive or likely to be injurious to health:

(b) Where any factory, workroom, shop, office, warehouse, or other place of trade or business is not provided with appliances so as to carry off in a harmless and inoffensive manner any fumes, gas, vapours, dust, or impurities generated therein:

(m) Where any chimney, including the funnel of any ship [and] the chimney of a private dwelling house, sends out smoke in such quantity, or of such nature, or in such manner, as to be offensive or likely to be injurious to health, or in any manner contrary to any regulation [or Act of Parliament]:

(n) Where the burning of any waste material, rubbish, or refuse in connection with any trade, business, manufacture, or other undertaking produces smoke in such quantity, or of such natures, or in such manner, as to be offensive or likely to be injurious to health:

The Health Act makes no specific reference to discharges of contaminants to air. The nuisance provisions, however, are wide enough to cover discharges of contaminants where they are likely to be offensive or injurious to health. Every person who permits or causes a nuisance is potentially committing an offence under the Health Act. District councils have enforcement powers under the Health Act and can abate a nuisance and recover costs. They may choose not to exercise these powers because the Resource Management Act offers more severe



penalties for similar offences. The Health Act has the advantage of enabling immediate action to be taken to abate the nuisance. Nuisances can be proven on the evidence of the opinion of an officer. Where there is a serious human health risk, using Health Act provisions may be more appropriate than an interim enforcement order under the Resource Management Act. The Health Act is currently under review.

3. Regional Policy Statement, Regional Plans and District Plans

3.1 Regional Policy Statement

The Regional Policy Statement for Manawatu-Wanganui provides the framework for the management of natural and physical resources in the Region. Objective 19 of the Regional Policy Statement is “to maintain or enhance air quality in the Region”.

This Plan must not be inconsistent with an operative regional policy statement.

3.2 Other Regional Plans

The Manawatu Catchment Water Quality Regional Plan addresses the adverse environmental effects caused by discharges to water, and discharges to land where that discharge may enter water, in the Manawatu catchment. Rules 11, 11A and 13 of that Plan include provisions for the avoidance of odour resulting from discharges of contaminants including agricultural waste, to land. Those rules will help achieve the objective of this Plan.

Other regional plans in the Manawatu-Wanganui Region are the Regional Coastal Plan and the Oroua Catchment Water Allocation and River Flows Regional Plan (Change 1).

This Plan must not be inconsistent with any other operative regional plan for the Manawatu-Wanganui Region.

3.3 District Plans

Every territorial authority is required to prepare a district plan to assist it in carrying out its functions under the Act. A district plan must not be inconsistent with the Regional Policy Statement or any relevant regional plans.

District plans can address air quality as related to the use and development of land while regional plans can address air quality in connection with the discharge of contaminants to air.



Types of use and development of land that can be addressed in district plans are the siting of landfills and farm effluent ponds. District plans can zone for particular land uses such as landfills and activities such as abattoirs and rendering plants that can cause significant amenity and aesthetic effects on the environment.

4. The Need for a Regional Air Plan

Section 65 of the Act defines the circumstances for the preparation and change of any regional plan. Regional plans must be prepared in the manner set out in the First Schedule of the Act. A regional plan may be prepared in respect of any aspect of any function for which the regional council is responsible. Section 65 (3) provides that regional councils shall consider the desirability of preparing a regional plan whenever the following circumstances arise or are likely to arise:

(h) any use of land or water that has actual or potential adverse effects on soil conservation or air quality or water quality:

or ...

(i) any other significant issue relating to any function of the regional council under this Act.

Some land uses have the potential to adversely affect air quality, in particular land uses that create problems of dust or odour. Local degradation of ambient air quality has been identified in the Regional Policy Statement as a significant issue in the Manawatu-Wanganui Region, and the control of discharges to air is a function of regional councils under the Act (see Section 2.1 above).

This Plan helps meet Objective 19 of the Regional Policy Statement, and Method 19.2 f (“to prepare a Regional Air Quality Plan”). A Regional Air Plan will provide certainty to users of the air resource about air quality management in the Region and requirements for resource consents. Objective 33 of the Regional Policy Statement is “To promote certainty for users of resources under the control of the Regional Council and to have effective and efficient resource consents processes”. The Regional Air Plan will help meet Objective 33 and corresponding Policies 33.1-33.3.

Section 7(c) and (f) of the Act requires the Council to have particular regard to the maintenance and enhancement of amenity values and the quality of the environment when exercising its functions under the Act.



Section 17 of the Act imposes a duty on every person to avoid, remedy or mitigate any adverse effect on the environment arising from an activity. In the absence of a regional plan, the Council would be reliant on this provision to carry out its functions for air quality for discharges not otherwise restricted under the Act.

The Act promotes an effects based approach to the management of natural and physical resources. In particular, Section 68(3) requires the Council to have regard to any effects of an activity before adopting a rule in a Regional Plan to manage that activity, and Section 104(1)(a) requires every consent application to be considered according to the effects of the activity.

In the absence of a regional plan, the management framework for discharges to air is not strictly based on their effects. The framework is based on whether the source of the discharge is an industrial or trade premises (see definition in Glossary) and whether the type of discharge coming from that premises required a permit under the Clean Air Act (see Clean Air Act Schedules in the Annex). A Regional Air Plan will help bring air quality management in line with the effects based approach of the Act.

The Council is satisfied that the current framework for managing discharges to air is not effects based, will have high implementation costs, and does not provide certainty for resource users in the Region. Preparation of this Plan is necessary to remedy these circumstances.



PART TWO

RESOURCE DESCRIPTION

5. Air and air quality

The air is a mixture of gases. This mixture, which is relatively constant all around the world, is made up of about 78% nitrogen and 21% oxygen. The remaining 1% is made up of gases such as argon, carbon dioxide, methane, hydrogen and carbon monoxide.

The concentrations of some gases in the air may change, particularly near towns and industrial areas. Air pollution occurs when any substance in the air increases in quantity or concentration for a period of time so that it causes adverse effects on the environment. Adverse effects include effects on the health of people, plants or animals, and damage to property. Air pollutants can also cause offensive odours and decrease visibility. These effects can affect people's well being and enjoyment of life.

There is no one word in Maori that equates to the common definition of 'air'. 'Hau' is a word or concept that is perhaps closest, meaning at the one time air, wind, or breath depending on the context in which it is used or the suffix applied. For example, 'hau-nui' means a great wind, while 'hau-ora' refers to the function of air (or breath) as a sustainer of life.

To Maori, air is comprised of physical and spiritual components which are either retained or transmitted through it. For example, Maori recognise that 'Ranginui' (the sky, atmosphere, universe in some contexts) is comprised of the life supporting gases essential to our existence - hence cardinal reference to 'Ranginui' in genealogies and incantations relating to the creation of life. Of significance to Maori is also the role air has to play as a medium for the transmission of 'mouri' (life force) and 'wairua' (spirit elements) both to the 'takiwa' (earthly space, horizon) and within the loftier realms of 'Ranginui'. These realms may be loosely compared with the spherical layers that comprise the atmosphere - the troposphere, ozone layer, stratosphere, and mesosphere to outer space - though 'Ranginui' is vastly more complex, straddling Maori spiritual and genealogical beliefs as well as Maori scientific observation.

Maori concern for air quality is therefore rooted in a physical and spiritual association with 'Ranginui'. This association is expressed through a wider environmental ethic that recognises the genealogical relationship of humankind with natural resources. Expressed in a regional context by the hapu and iwi of Manawatu-Wanganui, concern for the maintenance of this relationship with 'Ranginui' is reflected through the issues identified and addressed in this plan.



6. Air quality in the Manawatu-Wanganui Region

The Manawatu-Wanganui Region has a relatively dispersed population and the level of industrial development and traffic density is low compared to other regions, particularly those with large urban centres. As a result, concerns about aesthetic qualities such as visibility and odour predominate rather than concerns relating to the classical air pollutants such as oxides of sulphur and nitrogen.

Most places in the Region appear to have air that is free from the levels of pollution that would have adverse effects on people's health but the Council has little data on air quality in the Region. In particular, there are few objective measurements of air quality. For the preparation of this Plan, the Council has used information about aesthetic qualities, public response to air pollution, and information on the sources of air discharges in the Region to provide a subjective assessment of air quality and the issues associated with air management in the Region. These are discussed below.

6.1 Aesthetic qualities

Visibility, or the distance we can see, provides an indicator of overall air quality. People place a high value on good visibility. In the Manawatu-Wanganui Region landmarks such as Mount Ruapehu can be seen from as far south as Levin. High visibility is also highly valued in wide expansive environments such as the Manawatu Plains.

Degraded visibility caused by air pollution is not common in this Region, although localised meteorological conditions that limit the dispersion of pollutants sometimes occur and visibility can be affected as a result. Visibility may also be degraded on a local scale by an event such as agricultural burnoff. Low visibility is a recognised problem in some other regions, for example, smog has occurred in Christchurch because of elevated levels of sulphur dioxide and particulate matter; and brown haze or photochemical smog has occurred in Auckland because of elevated levels of pollutants such as nitrogen dioxide and ozone. It is important to safeguard the quality of the air resource in this Region so that future generations can experience the same clear skies and views as those experienced today.

Fresh smelling air is often assumed to indicate that the air is free from pollution; air that is not fresh smelling is taken as an indication that contaminants are present. Some communities in the Region have lived with a particular source of odour over a period of many years. While some communities accept particular odours as a necessary part of a particular operation, other communities are increasingly objecting to odours that occur frequently and which are perceived as being offensive.



This has happened in residential areas near industries such as tanneries, fellmongeries, abattoirs, and wastewater treatment plants. The establishment of such incompatible neighbouring activities has resulted to a large extent from historical planning practices that did not recognise the adverse effects of activities on amenity and cultural values.

6.2 Public response

Information provided by the public on their perception of air quality has helped the Council to identify air quality issues in the Region. Public response includes pollution complaints to the Regional and District Councils, community surveys and submissions to resource consent applications.

Air pollution complaints now comprise about half of all pollution complaints reported to the Council. Complaints have increased from eight in the 1991-92 year, 32 in 1992-93, to 71 in 1993-94 year. During the 1994-95 year, air pollution complaints numbered 98 out of a total of 208 pollution complaints. This increase may be due to a better public understanding of the Regional Council's role in air quality management but is also related to recent warm summers which have resulted in an increase in odour and dust problems.

Air pollution complaints to the Council relate mostly to odour. In the 1994-95 year 70% of all air pollution complaints concerned odour, compared to 45% for the 1993-94 year. Other causes for complaint concerned dust, off-target agricultural chemical spray drift, smoke, and solvent or paint fumes.

The Council carried out a Region-wide newspaper survey called "How Clean is Our Air?" in 1994. The survey, designed to obtain public input for the development of this Plan, sought public response to five topics: general air quality, odour, dust, smoke and spray drift. There were 198 respondents to the survey.

Seventy-nine percent of respondents felt the air quality was either excellent or good in winter. Slightly less, 71%, felt air quality was also either excellent or good in summer. These results indicate that the Region does not appear to have widespread air quality problems, but that some problems are significant on a local scale causing some people to regard air quality in their area as poor. Issues common at a local level were: odour; smoke from burning rubbish; dust from unsealed roads or yards; and the use of chemical sprays. This is consistent with concerns raised with the Council through pollution complaints.

A survey was also carried out by Council in late 1994 to identify the cause of an odour problem in Levin and to determine if the problem had worsened or improved over a period of time.



The results of the survey were that 74% of the respondents reported that they had been “bothered” at some time by smell from Levin’s Sewage Treatment Plant, and 66% of the respondents identified the Sewage Treatment Plant as the worst smell they experienced in their area.

Air discharge permits represent about four percent of all permits held and applied for in the Region. Most resource consent applications for air discharge permits are publicly notified for a 20 day period during which time anyone may lodge a submission supporting or opposing the application. The number of submissions an application receives provides an indication of the degree of public concern about the particular activity. About 58% of all air discharge permits applied for under the Resource Management Act to November 1995 have received submissions compared to about 24% for other types of applications during this time.

These submissions reflect to some extent the legislative changes that have enabled the community to make their opinions about local discharges to air known. Many of the concerns expressed in the submissions have been able to be resolved without the need for hearings.

6.3 Air discharge sources in the Region

Contaminants are discharged to air from a range of sources. These can be grouped according to whether the source is natural or human made, a point source or an area source, stationary or mobile, and rural, domestic or industrial. Some general examples of natural and human sources are:

Natural sources:

- Wind blown dust and dirt;
- Volcanoes (dust/ash and sulphur dioxide);
- Geothermal, for example, Rotorua (hydrogen sulphide);
- Biological degradation, (methane, carbon dioxide, hydrogen sulphide, ammonia).

Human made sources:

- Transport, for example, motor vehicles (lead, carbon monoxide, nitrogen oxides);
- Industry, for example, spray painting, joineries, meat works, sewage treatment plants, pulp and paper, combustion, quarrying, asphalt/hot mix plants;
- Domestic, for example, home fires and incinerators;
- Rural, for example, agricultural burn off, chemical sprays, silage odours.



In New Zealand it has been estimated that for the four major air pollutants, motor vehicles are the source of 90% of the carbon monoxide (CO), 50% of the nitrogen oxides (NO_x), 45% of the volatile organic compounds (VOC) and 35% of the carbon dioxide (CO₂).¹

An emission inventory of all sources of air discharges can be used to assess existing air quality and to determine the quantities of pollutants attributable to the various sector groups. This is usually done in conjunction with ambient air monitoring. The inventory provides the baseline data which can be used to predict how increases in a particular activity, such as traffic volumes, will affect the total volumes of particular pollutants discharged. The information is used to determine whether the predicted changes will threaten air quality objectives and, if so, to implement programmes to manage these changes so that air quality objectives will be achieved.

There is currently no inventory of emissions for the Region. The Council will be preparing an inventory as required by Method 19.7 in the Regional Policy Statement. The best information available to the Council is the number of resource consents that are held for air discharges in the Region.

In October 1995, there were 98 resource consents for discharges to air (either current or in the application process). These consents can be broken down into industries or activities that discharge odour, dust, combustion products or chemicals. Some industries discharge a combination of contaminants. Some examples are provided in Table 1 below. The number in brackets is the number of consents that are held for the particular activity. Note that some activities such as landfills have air discharges that involve more than one kind of contaminant, for example, dust and odour.

¹

Kuschel, G. and Clarkson, T. (1995) 'Benzene emissions from motor vehicles in New Zealand - what's the story?', *Water and Atmosphere*, 3(4):13-16.



Table 1: Consents Held for Discharges to Air in the Manawatu-Wanganui Region (October, 1995)

Odour	Dust	Combustion	Chemicals
waste transfer (2)	abrasive blasting (19)	metal smelting (4)	petrol stations (2)
landfills (30)	seed or grain processing or milling (3)	boilers or drying (25)	textile manufacture (2)
meatworks rendering (6)	asphalt manufacture (3)	asphalt manufacture (3)	pharmaceuticals (1)
cooking processes (5)	drying (5)	charcoal manufacture (1)	galvanising (1)
waste water treatment (1)	concrete handling (2)	incineration (2)	
hide processing (2)	gravel crushing and storage (2)		
drying (2)	landfills (3)		
brewing (1)			



PART THREE

AIR QUALITY MANAGEMENT

7. Air Quality Management in the Plan

This part of the Plan sets out the issues, objective, policies, and methods of policy implementation, including rules, for activities affecting air quality in the Region. These terms are defined in the Glossary. Policies and methods have been adopted to control the actual or potential effects of the activities. The issues below were identified in the Regional Policy Statement.

8. Issues

The following air quality issues have been identified in the Region.

Issue 1: Adverse effects on human health, well being, and environmental quality from the discharge of contaminants to air

In the Manawatu-Wanganui Region widespread elevated levels of air pollution resulting in adverse effects are unlikely to occur in the medium term. Population and industrial growth is likely to see an increase in the quantity of pollutants being discharged to air but air pollution is not likely to reach levels where there are measurable effects on the health and well-being of the population, particularly if human sources of air pollution are well managed and controlled. While point source discharges may create local problems and health hazards, discharges to air are often dispersed by local energetic wind conditions.

Air pollution has the potential to affect human health and well-being, animal health and plant growth. Air pollution can also soil or damage materials and reduce the amenity value of an area. People often find discharges of contaminants to air undesirable, or perceive the effect on air quality as harmful, because they and their property are involuntarily subjected to any effect associated with the discharge.

The incremental effect on air quality as a result of a particular discharge is very difficult to measure. In particular, it is difficult to quantify the incremental effect on human health or damage to property over time. The overseas experience is that if pollutants from a large number of sources accumulate in an 'air shed', for example, in an area where the pollutants cannot be easily dispersed because of geographical and meteorological conditions, air quality can be significantly degraded so that visibility is impaired, the overall health of the population is reduced, and property is damaged.



Discharges of particulate matter and sulphur dioxide from burning coal, for example in boilers or in home fires, can cumulatively cause air pollution that irritates people's respiratory systems, and can particularly affect asthmatics. People also become concerned when they can smell chemical fumes from spray painting or fibreglassing operations. The chemical fumes are often solvents that can result in people getting headaches or more serious health problems in occupational exposures. Toxic air pollutants are often a concern in occupational exposures, but in the ambient situation dilution effects lead to a reduced risk of health problems.

Industrial emissions that were classified as Part A or Part B processes under the Clean Air Act (see Annex) have usually been controlled sufficiently so that the risk of adverse health effects to the general population is minor. Toxic air pollutants are often a concern in occupational exposures but in the ambient situation are dilute enough so as not to pose a health risk. Control is needed, however, to ensure that toxic levels are not reached in ambient air.

The hapu and iwi of Manawatu-Wanganui are concerned that their relationships with air and its intrinsic qualities are not diminished either physically or spiritually. Examples of activities that impact physically on this relationship are large scale discharges of contaminants to air which lead to the physical degradation of 'Ranginui', and discharges of odorous or potentially dangerous gases in close proximity to marae, waahi tapu or other taonga which diminish the mana of the tangata whenua. An example of an activity that may be deemed inappropriate on spiritual grounds is a discharge to air from a crematorium, no matter how insignificant physically, in close proximity to marae, waahi tapu or other taonga.

Issue 2: Odour

At least half of all air pollution complaints to the Council concern odour. Factors influencing the significance of an odour effect are the frequency of the odour occurrence, the intensity or concentration of ambient odour concentration, the duration of exposure to the odour, and the offensiveness of the odour. Additionally, the location of the odour and the time of day that it occurs can influence its perceived offensiveness.

Some Maori have expressed concern to the Council about the effects of particular activities near their marae. In particular, the mana of a marae is adversely affected by offensive odours from neighbouring operations such as meatworks, fellmongeries, and sewage treatment plants.

People's ability to detect odours can vary by up to two orders of magnitude. That is, one person may detect the odour associated with a chemical at a concentration of one part per million, and another may not detect the odour until the concentration is increased to one hundred parts per million.



There are a relatively small set of odours that most people agree are offensive (for example garbage, sewers and ammonia) the rest are perceived differently by different people. Prolonged or frequent exposure can reduce some individuals' awareness of particular odours. People can also have difficulty distinguishing a discharge source where several odorous activities are located close to each other or are all on the same site, such as abattoir or at a sewage treatment facility. Small discharges can sometimes be smelled over wide areas, affecting many people, because many chemicals are detectable at very low concentrations.

Remediation or mitigation of odour problems may take considerable time, particularly if system upgrades are required. The main activities in the Region that have been known to cause offensive odours are:

- sewage and wastewater treatment systems, such as the sewage treatment plant at Levin, the sewage oxidation ponds at Marton and the anaerobic lagoons at Richmond's (Oringi) meatworks;
- abattoirs, fellmongeries and rendering plants;
- land application of wastewater;
- factory farming, such as intensive pig and poultry farms;
- commercial food processing and preparation, such as Watties Frozen Foods in Feilding and Kiwi Fries at Foxton; and
- large scale composting operations and landfills.

Issue 3: Dust and other particulate matter

Dust causes the second greatest number of air pollution complaints in the Region. Particulate matter indicators include measures of smoke, deposited particulate, suspended particulate, and visibility reducing particulate. Many physically and chemically diverse substances fall into this class of pollutant, which exists in solid or aerosol state. Particulate matter may be blown into air during earthworks, or may be discharged directly from chimneys or by activities such as sandblasting. Other sources include grain and seed-handling facilities, handling of powders such as flour and milk powder and quarrying, extraction, processing, storage and distribution of aggregates.

Environmental effects can include unwanted deposition of dust on property, reduced visibility, and health impairment from breathing dust. Adverse effects associated with discharges can be addressed by measures in this Plan. Effects that relate more closely to particular land uses can be addressed by measures in district plans (see also Issue 5). Dust and other particulate matter can be created by soil erosion. Soil erosion is addressed by the Regional Council through soil conservation functions.



Issue 4: Agricultural Chemicals Spray-drift

The application of agricultural chemicals (agrichemicals), such as herbicides and pesticides, can result in some losses from the target area. Such losses are collectively described as drift, and may occur in the solid, liquid or vapour form. The three main factors that affect the extent of any drift are weather conditions, particularly wind speed, wind direction and humidity; particle or droplet size, which is related to the application equipment; and the height of release of the particle or droplet.

Agrichemical spray drift may contaminate surface water and may also pose a threat to human health, and can kill, damage or contaminate neighbouring crops, gardens and non-target species. Particular concern arises if agrichemical sprays drift onto household rooftops where the occupants are reliant on rooftop water supply. In this Region spray drift is generally associated with aerial application of herbicides but there is also potential for spray drift to occur during land based applications. The risk of spray drift can be reduced by ensuring that agrichemical application is undertaken in accordance with methods recognised in the Agrichemical Users' Code of Practice (NZS 8409:1995).

Control of off-target spray drift is scattered through different pieces of legislation, including the Pesticides Act, 1979 and regulations, the Health Act, 1956, the Civil Aviation Act, 1990 and regulations, and the Resource Management Act, 1991. The problems with managing the effects of spray drift were discussed by the Parliamentary Commissioner for the Environment in her report "Management of Agrichemical Spray Drift", office of the Parliamentary Commissioner for the Environment, 1993. The report contained a number of recommendations, including that regional councils be the "lead agency" for the management of off-target spray drift in their regions. Managing the effects of off-target spray drift by methods in this Plan requires consultation with operators, the agricultural chemical industry, people in communities affected by spray drift, the Ministry of Agriculture (Agricultural Policy), Public Health Units of crown health enterprises, district councils and the Civil Aviation Authority.

Issue 5: Inter-organisational institutional arrangements

Some activities that can degrade air quality can be dealt with by different authorities using different legislative provisions. Point source air degradation can be regulated by methods adopted in this Plan. Air degradation caused by the use or development of land, such as farm effluent ponds or earthworks, can be controlled by methods adopted in district plans.



The most problematic air quality problem in this Region, odour, causes significant effects primarily because either odorous activities have been allowed to become established near other incompatible land uses, or because residential land uses have been allowed close to industrial areas. This has led to two types of problem. Once established, some industries have intensified their operations, adversely affecting their neighbours. Conversely, the potential for more people being adversely affected by odour increases as a result of residential land uses establishing or intensifying near industrial activities.

Regional councils and district councils can order the abatement of activities causing adverse effects on the environment through their powers under the Act. District councils also have powers under the Health Act to promulgate by-laws about smoke and dust and can order the abatement of nuisances such as smoke, dust and odour through their powers under that Act. The aerial application of agricultural chemicals is managed by legislative provisions in four different acts, administered by four different organisations.

This Plan needs to adopt management processes to address issues that cross organisational administrative boundaries (including Regional Council boundaries) so that there is no duplication, redundancy, and over-regulation between jurisdiction. The respective expertise of each organisation should be considered when adopting these processes.

Issue 6: National and Global Air Management Issues

The long-term effects on the global environment from discharges to air have been identified as an issue in the Regional Policy Statement for Manawatu-Wanganui. Global climate change, thought to be caused by greenhouse gas emissions significantly in excess of historical or pre-industrial emission rates, has international causes and effects. New Zealand's greenhouse emissions comprise about 0.1% of the world's total however New Zealand's per capita contribution of CO₂ is almost double the world average and methane emissions are about five times the world average.

The burning of coal, petrol and other fossil fuels releases stored carbon to the atmosphere as carbon dioxide. This carbon dioxide cannot be permanently re-captured although the establishment of forest plantations creates temporary carbon sinks. The transport sector is responsible for almost half of energy-related carbon dioxide emitted in New Zealand. Methods adopted to reduce energy-related carbon dioxide emissions must recognise that people's reliance on fossil fuel burning cannot be substantially changed in the short-term. Any methods adopted to achieve this change need to have national acceptance and be implemented by central government.



Most methane production in New Zealand relates to agricultural production, such as emissions from cows and sheep. Some methane is also produced from natural phenomena such as wetlands. These emissions cannot be reduced with current technology. The degradation of waste in landfills produces methane.

District Councils are working toward collecting methane from two landfills in the Region. Another gas with a greenhouse effect is nitrous oxide. Intensive agricultural activities and use of fertiliser has contributed to the rise of nitrous oxides in the atmosphere. New Zealand's large agriculture and horticulture focus means these emissions are unlikely to be reduced.

The New Zealand Government has a commitment to reduce emissions of CO₂ and other greenhouse gases under the Framework Convention for Climate Change (FCCC). Climate change is more appropriately addressed by Central Government, than by local authorities under the Resource Management Act for two reasons: the issue requires a consistent approach across the country; and Central Government is able to implement nation-wide measures not available to local authorities.

The Government's interim objective for climate change is to reduce net carbon dioxide emissions to 1990 levels by 2000 and keep them at that level thereafter. The reduction could possibly be achieved by targeting the transport sector, and improving fuel-burning efficiency in non-efficient industries. This would have a two-way benefit because improved fuel-burning efficiency will decrease overall quantities of carbon dioxide emitted as well as reducing quantities of other air contaminants emitted. Targeting every carbon dioxide emitting industry would not be equitable because some industries may have implemented fuel-burning efficiency measures already.

This issue is primarily addressed by methods in the Regional Policy Statement for Manawatu-Wanganui. The potential to minimise emissions of all contaminants, including greenhouse gases, can be assessed as part of resource consent applications and managed in a way that is not inconsistent with Central Government Policy.



9. Objective for the Manawatu-Wanganui Region

To maintain or enhance air quality in the Region, and have ambient air quality that does not adversely affect human health and well being, animal and plant health, amenity values and cultural values.

10. Policies for the Manawatu-Wanganui Region

The Council has adopted seven policies to manage discharges to air in this Region. These policies are implemented by methods given in Section 13 of this Plan, and provide guidance for the assessment of resource consent applications. The policies are explained in detail in Section 11 of this Plan. The reasons for adopting these policies, in terms of Section 32 of the Act, are given in Section 12 of this Plan.

Policy 1: Use of regional rules

To manage discharges of contaminants to air by adopting regional rules that:

- a. permit all activities that have minor effects on the environment, including, as appropriate, those restricted by Section 15 of the Act, provided specified conditions are met;
- b. regulate those activities that have the potential to cause any more than minor effect on the environment, including, if appropriate, those activities not restricted by Section 15 of the Act;
- c. prohibit any activities that have, or have the potential to have, an unacceptable adverse effect on the environment and/or human health that can not be avoided, remedied or mitigated; and
- d. provide certainty to the community and resource users about how air quality will be managed.

Policy 2: Matters to be considered for resource consent applications

To have particular regard to the following matters when considering resource consent applications:

- a. the effects of the discharge on:
 - i. human health, safety and well-being;
 - ii. health and functioning of ecosystems, plants and animals, including indigenous ecosystems;



- iii. other components of the receiving environment, including surface waters and land;
 - iv. structures;
 - v. ambient air quality;
 - vi. visibility; and
- b. the effects of the proposed discharge on any sensitive receiving environments (refer to Glossary), in particular discharges which have adverse effects on visibility or which cause the soiling of property; and
 - c. the nature of the discharge with respect to tangata whenua concerns and the effect of the discharge on waahi tapu, marae and other places or features of significance to tangata whenua, particularly adverse effects from the intrusion of odour and visual contaminants; and
 - d. the outcome of consultation between the applicant and affected parties; and
 - e. the results of any emission testing, ambient air monitoring or atmospheric modelling undertaken; and
 - f. meteorological conditions, local micro-climates, topography and any other surrounding environmental conditions that may influence the effects of the proposed discharge; and
 - g. the potential for reducing the quantity, or improving the quality, of the discharge at source and where the potential is not to be realised, the reasons for not doing so; and
 - h. whether the best practicable option for the management of discharges to air is proposed or in place and where the best practicable option is not proposed or not in place, the reasons for not doing so; and
 - i. the likely contribution of the proposed discharge to any cumulative adverse effect, including from the same property, that could arise over time or in combination with other effects; and
 - j. any relevant code of practice and any management and maintenance systems; and
 - k. the training and qualifications of the operator; and
 - l. any adverse effects on cultural and historic heritage resources, having particular regard to any adverse effects on the scenic, aesthetic and recreational values associated with heritage resources; and



- m. the frequency, intensity, duration, offensiveness and location of the discharge to which the application relates; and
- n. whether the activity was legally established and/or allowed by the District Plan.

Policy 3: Conditions on resource consents

To include conditions on resource consents, where appropriate, including conditions relating to:

- a. measures necessary to avoid, remedy or mitigate any adverse effect on:
 - i. human health, safety and well-being, and amenity values including adverse effects on scenic, visual or recreational values associated with public land;
 - ii. health and functioning of ecosystems, plants and animals, including indigenous ecosystems;
 - iii. other components of the receiving environment including recreational resources, transport networks, surface waters and land;
 - iv. structures;
 - v. cultural and historic heritage resources, in particular adverse effects on the scenic, aesthetic and recreational values associated with heritage resources;
 - vi. waahi tapu, marae and other places of significance to tangata whenua; and
- b. the point of discharge relative to neighbouring activities or potentially affected land uses nearby, including residential housing and marae; and
- c. discharge management options, including:
 - i. setting emission limits, where adequate information exists about the nature of the discharge and its effects on air quality and the surrounding environment; or
 - ii. adopting the best practicable option to prevent or minimise adverse effects on the environment; and
- d. provision of, and adherence to, a management plan that requires the holder of the consent to undertake such works, in such stages throughout the term of the consent as will ensure that, after specified times, the discharge will not contravene specified performance standards provided for in the condition; and



- e. contingency measures necessary to avoid any accidental discharge, including discharges associated with breakdowns; and
- f. the volume, composition and concentration of contaminants in the discharge; and
- g. the rate, frequency, duration, timing, and manner of the discharge; and
- h. contributing financially to, or undertaking monitoring of air quality, emissions, or their effects; and
- i. for discharges of agricultural chemicals, the method of application, including the type of spray equipment to be used, spray droplet size, direction of spraying, weather conditions, types of chemical, and the height of release above ground.

Policy 4: Promotion of self regulation

To promote the use of codes of practice and self-regulation, where the Council considers these to be appropriate and effective, such as formal environmental management systems, as means to avoid, remedy or mitigate adverse effects of discharges of contaminants into air.

Policy 5: Avoidance of agricultural chemical spray drift

To avoid adverse effects on human health or the environment, including adverse effects on amenity values, sensitive areas, and the health and functioning of ecosystems, from agrichemical spray drift by promoting agrichemical application in accordance with the NZ Standard 8409:1995 Agrichemical Users' Code of Practice.

Policy 6: Management of odour, dust and smoke

To avoid, remedy or mitigate adverse effects on amenity values, human health and well being or property arising from:

- a. the frequency, intensity, duration or offensiveness and location of odour; and
- b. the discharge of dust, smoke, or other particulate matter; and
- c. the creation of odour, dust and smoke nuisance from land use.



Policy 7: Co-operation with territorial authorities and other organisations

To establish processes to deal with the effects on air quality from activities that are, or can be, managed by organisations other than the Regional Council through consultation and co-operation with other organisations to ensure that there is no duplication, redundancy, or over regulation between jurisdiction.

11. Explanation of policies

These policies establish the framework to maintain or enhance air quality in the Region.

Policy 1 establishes the regulatory framework for the management of discharges to air. This framework applies an effects-based approach, required for the adoption of regional rules by Section 68 (3) of the Act, and required for the assessment of all resource consent applications by Section 104 of the Act, to air discharges.

Policy 2 provides guidance on matters the Council will have particular regard to when assessing a resource consent application to undertake an activity restricted by a rule in this Plan. These matters will be considered where the Council has the discretion to grant or refuse an application. The Ministry for the Environment's publication *Ambient Air Quality Guidelines*, July 1994 provides human health based bottom lines for air quality. Where air quality is currently better than the levels specified in the guidelines, it should not be allowed to degrade to guideline levels. This policy does not override the requirements of Section 104 of the Act, which states:

Subject to Part II, when considering an application for a resource consent and any submissions received, the consent authority shall have regard to -

- (a) Any actual and potential effects on the environment of allowing the activity; and*
- (b) Any relevant regulations; and*
- (c) Any relevant national policy statement, New Zealand coastal policy statement, regional policy statement, and proposed regional policy statement; and*
- (d) Any relevant objectives, policies, rules, or other provisions of a plan or proposed plan; and*
- (e) Any relevant district plan or proposed district plan, where the application is made in accordance with a regional plan; and ...*



This means that Part II of the Act (Sections 5 to 8) has precedence over Policy 2.

Policy 3 provides guidance for the types of conditions that may be included in a resource consent granted by the Council. Conditions will be included where necessary to provide for the matters in this policy. Conditions may also be included to provide for matters specifically adopted in the relevant rule.

Policy 4 recognises the potential for self-regulatory methods to prevent problems from the discharge of contaminants into air. The Agrichemical User's Code of Practice has recently been adopted as the New Zealand Standard, NZS 8409:1995. Codes of practice, such as the Code of Practice for Pig Farming (New Zealand Pork Industry Board, August 1993), have been developed by the relevant industries and provide for a consistent approach to be taken throughout the country. Many codes of practice are not prescriptive but provide a management framework that will reduce the risk or incidence of adverse effects from the activity.

Policy 5 provides guidance to avoid adverse effects from agrichemical spray drift, including adverse effects on people, neighbouring land uses and ecosystems. Sensitive areas include residential buildings, school buildings, amenity areas where people congregate, public water supply intakes, sensitive cropping or farming systems such as organic farming, wetlands, and public roads.

Adverse effects from spray drift are essentially a cross boundary issue (see Policy 7) because the Ministry of Agriculture, crown health enterprises, and district councils also have responsibilities for off-target spray drift. It is important to ensure that appropriate direction is included in this Plan because regional councils are responsible for all discharges to air.

Policy 6 provides guidance for situations where effects on air quality arise either from discharges to air, or from particular land uses. Dust can be generated by activities such as abrasive blasting, or from unsealed industrial yards.

Odour can be generated by activities such as fellmongering or from farm effluent ponds. Smoke can be generated from a boiler discharge or from agricultural burn-offs. Smoke generated from burning waste or other materials as a means of waste disposal or energy extraction may cause adverse effects on human health. It is appropriate for this Plan to include performance standards in rules where air quality will be affected by a discharge to air.



Where air quality will be affected by a particular land use, it is appropriate for performance standards relating to that land use to be included in relevant rules in a district plan. This policy provides guidance for methods that will be adopted in this Plan and district plans.

Policy 7 recognises that other organisations have responsibilities for managing activities that can cause adverse effects on air quality. Methods need to be adopted in this Plan to avoid duplication or overlap of management methods undertaken by other organisations.

12. Reasons for adopting the objective and policies

The objective and policies in this Plan have been adopted to achieve the purpose of the Act. Air quality is a public good and individuals have few incentives to improve or maintain air quality voluntarily. In adopting this Objective the Council has had particular regard to the maintenance and enhancement of amenity values and the maintenance and enhancement of the quality of the environment, consistent with Section 7 of the Act.

Policy 1 has been adopted to ensure that discharges to air are managed according to the level of adverse effect they may have on the environment. The effects of most emissions to air are minor or can be managed by the enforcement of appropriate performance standards. A regulatory framework establishing appropriate standards for managing discharges to air provides clear guidance and the least intervention necessary to achieve the objective. Policy 1 has been adopted to address Issues 1, 2, 3 and 4.

Policy 2 has been adopted to assist the Council in achieving its function of controlling discharges of contaminants to air. This Plan must provide effective guidance for assessing resource consent applications. The matters included in this policy are consistent with the matters in Section 104 of the Act and with specific issues of concern for discharges to air in this Region. Policy 2 has been adopted to address Issues 1, 2, 3, 4 and 6.

Policy 3 has been adopted to assist the Council in achieving its function of controlling discharges of contaminants to air. This policy provides certainty to applicants and is necessary to help achieve Objective 33 of the Regional Policy Statement for Manawatu-Wanganui as changed by Decisions on Submissions. Policy 3 has been adopted to address Issues 1, 2, 3 and 4.

Policy 4 has been adopted to recognise that codes of practice are often a more efficient method of achieving the purpose of the Act than imposing original, special or alternative standards through conditions on resource consents or in rules defining Permitted Activities. Policy 4 has been adopted to address Issues 1, 2, 3 and 4.



Policy 5 has been adopted to address Issue 4. Off-target agricultural chemical spray is a matter of special concern to many people in the Region. The Regional Council has included specific guidance in Policy 5 to manage the issue.

Policy 6 has been adopted to address Issue 2. Odour, dust and smoke are the most widespread issues affecting air quality in the Region. However, some sources of odour, dust and smoke are not easily managed by regional councils in respect of their functions under Section 30 of the Act. This is because they arise as an effect of particular land use and in some instances may be more effectively controlled by district councils as part of their functions under Section 31 of the Act. Regard needs to be taken of the effects of odour, dust and smoke on the environment. The Ministry for the Environment in their document entitled *Odour Management Under the Resource Management Act* identified that the factors that influence the significance of adverse odour effects are ‘frequency, intensity, duration, offensiveness and location.

Policy 7 has been adopted to address cross boundary issues as is required by Section 67 of the Act and to address inter-organisational arrangements identified in Issue 5.

The Council is satisfied that these policies are necessary to achieve the purpose of the Act, and that they are the most efficient and effective means of controlling discharges of contaminants to air. The costs of implementing the policies will mainly accrue to individual dischargers.

13. Methods to implement policies

The Council has adopted a management regime of regional rules in accordance with Policy 1. These rules provide guidance and certainty to applicants and the regional community. Other methods to implement policies are in Section 13.2.

The rules define specified activities, or discharges from specified premises, as being Permitted, Controlled, Discretionary, Non-complying, or Prohibited Activities. An explanation is provided for each rule to explain its application. Discharge permits are required for all activities described as either Controlled, Discretionary, or Non-complying Activities. To determine whether the discharge from an activity requires a discharge permit, follow the steps outlined below.

Step 1 What are the sources of the discharge? That is, for example, is the discharge from ventilation equipment, a smoke stack, abrasive blasting, or the application of agrichemicals? Check Section 13.1 for the various discharge types covered by rules in this Plan.



- Step 2 Is the discharge from fuel burning equipment used for producing heat or power?
- a. If yes, and it is covered by RAP Rule 6, go to Step 3.
 - b. If yes, and it is not covered by RAP Rule 6, go to Step 2.c.
 - c. If yes, and it complies with the standards in RAP Rule 7, a permit is required and the application will be processed as a Controlled Activity in accordance with this rule. Go to Step 6.
 - d. If yes, and it does not comply with the standards in RAP Rule 7, a permit is required and the application will be processed as a Discretionary Activity in accordance with RAP Rule 17. Go to Step 6.
 - e. If no, go to Step 3.
- Step 3 Is the discharge covered by any of RAP Rules 1-6, 7A, or 10-15?
- a. If yes, and it complies with the conditions of the relevant rule, no discharge permit is required.
 - b. If yes, and it does not comply with the conditions of the relevant rule, a discharge permit is required in accordance with RAP Rule 17. Go to Step 6.
 - c. If the discharge is not covered by any of RAP Rules 1-6, 7A or 10-15, go to Step 4.
- Step 4 Is the discharge from an industrial or trade premise (see definition in the Glossary)?
- a. If it is not from an industrial or trade premise, and it is not covered by any of RAP Rules 1-6, or 10-15, no permit is required.
 - b. If it is from an industrial or trade premise, go to Step 5.
- Step 5 Is that premise specifically referred to in Rule 16?
- a. If yes, and the discharge complies with the conditions of that rule, no permit is required.
 - b. If yes, and the discharge does not comply with the conditions of that rule, a discharge permit is required and the application will be processed as a Discretionary Activity under RAP Rule 17. Go to Step 6.
 - c. If the premise is not specifically referred to in the rule, a permit is required in accordance with this rule. Go to Step 6.



- Step 6 Apply to the Council for a discharge permit and include the information requirements specified in Part Five of this Plan.
- Step 7 If the discharge is from an activity described in RAP Rule 8, then a permit is required. This activity does not comply with the Plan, but applications can be made and assessed on their individual merit. A discharge permit can only be granted for these activities if the applicant can prove that the effects are minor, and that granting the permit will not be contrary to the objective and policies of this Plan.
- Step 8 If the discharge is from an activity described in RAP Rule 9, then the activity cannot be undertaken and no permit can be applied for. These activities are prohibited.

Moving or mobile sources

This Plan does not restrict discharges from moving or mobile sources, whether or not located on an industrial or trade premises, except as specifically provided in Rule 11, Rule 13, and Rules 14 and 15.

Objectionable Odour

Several regional rules in this Plan require that effects such as odour are not “**objectionable**” beyond the property boundary. Objectionable is not defined in the Glossary because the Council will take account of case law precedents. Justice Grieg of the Planning Tribunal, assessed “offensiveness” in terms of Section 17 of the Resource Management Act in the case of *Zdrahal v Wellington City Council* (the swastika case). He decided the Tribunal took the ordinary member of the public’s view, and acknowledged that this is subjective. *“Offensiveness or objectionability cannot be measured by a machine or by some standard with arithmetical graduations. It is a matter of perception and the interpretation of that perception in the mind. ...If it is objectively offensive or objectionable, that is, if reasonable ordinary people would be offended or find it objectionable, then it does affect the environment of those people and of any other people living in the vicinity who are likely to be so affected.”*

Environmental monitoring staff at the Council are tested for their sensitivity to odour. Staff were tested using the n-butanol odour detection threshold method.



The purpose of this assessment is so odour monitoring can be assessed by someone who is neither sensitive, nor insensitive, but 'ordinary'. Objectionable is defined in the Oxford encyclopaedic English dictionary as "open to objection, unpleasant, offensive". Offensive is defined as "giving or meant or likely to give offence ... disgusting, foul smelling, nauseous, repulsive".

Each investigation of a complaint concerning offensive or objectionable discharges will depend upon the specific circumstances. However, for odour, the approach will be as follows:

- a. An assessment of the situation will be made by a Council Officer who has experience in odour complaints and has had his/her nose calibrated using olfactometry. This assessment will take into account the FIDOL factors: frequency, intensity, duration, offensiveness and location.
- b. If the discharge is deemed to be offensive or objectionable by the Council Officer, the discharger will be asked to take whatever action is necessary to avoid, remedy or mitigate the effects of the discharge.
- c. If the discharger disputes the Council Officer's assessment of the problem, or the problem is ongoing, then a number of approaches may be taken, including one or more of the following:
 - Assessments by more Council Officers;
 - Asking the discharger to keep a complaints register;
 - Asking people living and working in the subject area to keep a diary that notes details of any offensive or objectionable odours;
 - Promoting the use of community working groups and other means of consultation between the affected community and the discharger;
 - Using the services of an independent consultant to carry out an investigation, and/or public survey;
 - Undertaking an odour assessment using an olfactometer.
- d. If the discharge continues to be offensive or objectionable, then enforcement action may be taken. This could be in the form of an abatement notice, infringement notice, enforcement order or prosecution, pursuant to the Resource Management Act 1991. (190, 191, 192, 352, 354, 356, 416, 417, 418).



Objectionable dust

Objectionable dust discharges will be assessed by a Council Officer who will take into account the frequency and duration of the dust discharge, the location at which the complaint is occurring, and the amount of deposited particulate or airborne dust resulting from the discharge. Where appropriate, atmospheric dust deposition monitoring may be conducted. A guideline of $4\text{g}/\text{m}^2/30$ days above background levels is a good indication of when objectionable effects may be occurring due to dust deposition.

Noxious and dangerous

When assessing if a discharge results in any noxious or dangerous levels of airborne contaminants from the point of discharge, Council Officers will consider the following matters:

- i. The presence and concentration of any contaminant in the discharge in relation to the Workplace Exposure Standard(s) (Occupational Safety and Health Service, Department of Labour, 1994), time weighted average for short term exposure; and
- ii. The likelihood and frequency of any person being exposed to the contaminant; and
- iii. The dispersion which would be likely to take place from the point of discharge to the property boundary.



13.1 Regional rules

13.1.1 Air Displacement

RAP Rule 1: Discharges of displaced air from buildings

Subject to RAP Rule 12, any discharge into air

- a. from any premise to allow air to circulate or be replenished in a room or workspace;
- b. from a fume cupboard

is a **Permitted Activity** provided—

- i. there is no objectionable odour or dust at or beyond the property boundary or beyond 20 metres from any point of discharge when it is sited on public land; and
- ii. for clause 1(b) the discharge is from any fume cupboard that:
 - a. was installed prior to 1 October 1993 and complies with the Building Act 1991, and the Health and Safety in Employment Act 1992; or
 - b. was installed after 1 October 1993 or is in a building undergoing significant building alteration and complies with the New Zealand Standard 7203:1992.

Explanation

This rule applies to discharges from air-conditioning units and fume cupboards and any other ventilation discharge. Ventilation discharges from sewage pumping stations are not included in this rule. They are covered by RAP Rule 12.

Fume cupboards are subject to restrictions under the Building Act and the New Zealand Standards. Potential adverse effects from discharges from fume cupboards will be avoided provided the fume cupboard complies with those requirements. It is unnecessary to duplicate those requirements with additional resource consent requirements.



RAP Rule 2: Discharges of displaced air

Subject to RAP Rule 12, any discharge into air

- a. from tanks used for the storage of liquids, including petrol and diesel oil storage tanks; or
- b. from the venting of gas pipelines, pumps, compressors, tanks or associated equipment;

is a **Permitted Activity** provided—

- i. there is no objectionable odour or dust at or beyond the property boundary, or beyond 20 metres from the point of discharge whichever distance is less.

Explanation

This rule applies to discharges of displaced air from storage tanks, and gaslines etc. Any potential adverse effects from these discharges are avoided or mitigated by methods in the Code of Practice “Design, Installation and Operation of Underground Petrol Storage Tanks” and by conditions that can be applied by district councils relating to the siting of the storage tank relative to other properties. The COP was developed by the Department of Labour, the Ministry for the Environment, BP, Shell, Mobil, and Caltex.

13.1.2 Discharges of water vapour, heat and energy

RAP Rule 3: Discharges of steam or water vapour

Any discharge into air of condensed water vapour, including steam

is a **Permitted Activity** provided—

- a. any plume does not impair visibility on any road or in any aircraft flight path; and
- b. there is no drift of an objectionable plume onto an adjacent property; and
- c. there is no venting of steam or water vapour directly above footpaths or onto other properties.



Explanation

This rule applies to all discharges of water vapour, including discharges of water vapour from cooling towers. Cooling towers are a specific type of heat exchanger used to remove heat from a range of industrial processes. The heat transfer medium is usually water, which is cooled in the tower before it is returned to the process.

RAP Rule 4: Discharges of energy, including heat

Any discharge into air of

- a. air heated above ambient temperature, including heated air from heat exchangers, and air used for the purpose of cooling plant and equipment; and
- b. release of energy from sources such as generators and including electro magnetic radiation from radio and television transmitters, cell phone sites, and electro magnetic fields from transmission lines, and;
- c. X-rays from a radioactive source

is a **Permitted Activity**.

Explanation

Heat and energy are included as “contaminants” under the Act if they change the physical, chemical or biological condition of the air (see Glossary). Electromagnetic radiation (EMR) consists of ionising radiation and non-ionising radiation. The control of ionising radiation (including x-rays and gamma rays) is administered by the National Radiation Laboratory under the Radiation Protection Act. No additional control of these discharges is required by the Regional Council. Non-ionising radiation is mainly associated with the broadcasting and communication industries. There is a New Zealand Standard (NZS: 6609:1990) for emissions from radio frequency transmission sites that is available for the control of such radiation. Electromagnetic fields (EMF) are the phenomena associated with conductors of electricity including electricity transmission lines, electrical wiring and appliances. EMF are extremely low frequency electric and magnetic fields that generate no radiation (they do not radiate energy away from the source). Discharges from EMF and non-ionising radiation do not affect air quality, but have been included in this rule for clarity. The siting of these premises, in particular, their proximity to airports, is provided for through district plan rules and district land use planning consents.



Discharges of heat without any products of combustion is likely to be an extremely rare event. Such discharges have little or no effect on ambient air quality. This rule applies to large outdoor heaters such as those operated in garden bars, therefore a temperature limit is inappropriate and unnecessary.

13.1.3 Discharges of products of combustion

RAP Rule 5: Discharges from open burning of waste

Subject to RAP Rules 8 and 9, the discharge into air of the products of combustion from the open burning of vegetable matter waste, including plant pests, agricultural, horticultural or domestic garden waste, cardboard, paper, non PVC plastic, or untreated timber, or forestry waste

is a **Permitted Activity** provided—

- a. there is no objectionable smoke or odour at or beyond the property boundary; and
- b. smoke does not adversely affect visibility on any road or in any aircraft flight path.

Explanation

This rule is subject to Rules 7A, 8 and 9. That is, if the activity is restricted by Rules 8 or 9, those rules override the provisions of this rule. This rule applies to the burning of vegetable matter waste, not to the burning of dead animals. A plant pest is any plant that is defined as a pest in the Regional Plant Pest Management Strategy for Manawatu-Wanganui. Smoke drifting onto or over roads can cause a significant traffic hazard and those who undertake burnoffs near roads need to ensure that the material being burnt will not cause visibility on roads to be adversely affected. Open burning is defined in the Glossary and includes burning in open drums where the combustion process is uncontrolled. The Council will be promoting compliance with this rule through provision of information, and, if necessary, enforcement action.

RAP Rule 6: Discharges from small scale fuel burning equipment

The discharge into air from a non-moving source, including, but not limited to, industrial or trade premises, of

- a. products of combustion from fuel burning equipment using coal, oil, or untreated wood at a rate not exceeding 40 kilowatts, or



- b. methane, or natural or liquefied petroleum or sludge gas at a rate not exceeding 5 Megawatts

is a **Permitted Activity** provided—

- i. the discharge is from a chimney or exhaust flue; and
- ii. there is no objectionable smoke at or beyond the property boundary; and
- iii. smoke does not adversely affect visibility on any road; and
- iv. there is no objectionable odour at or beyond the property boundary; and
- v. there is no objectionable deposition of particulate matter from smoke onto any land, property or structure at or beyond the property boundary.

Explanation

This rule applies to all non-moving sources, whether or not they are industrial or trade premises. Domestic stoves such as Kent fires have a heat rate of about 20-25 kilowatts. Domestic open fires are not restricted by this rule.

This rule does not apply to moving or mobile sources such as motor vehicles, trains or chainsaws, including when such mobile sources are located on industrial or trade premises. Discharges of products of combustion to air from moving or mobile sources are not restricted under this Plan.

Appliances that use oil, coal and untreated wood are controlled at a lower heat output than appliances that use gas because products of combustion of oil, coal and wood can include nitrogen oxides and sulphur oxides which have the potential to cause greater adverse effects than the products of combustion (CO₂ and H₂O) of gas. This rule does not apply to burning of waste oil. See RAP rules 9 and 17,

RAP Rule 7: Discharges from fuel burning equipment, including boilers

- 7.1 Except as allowed by RAP Rule 6 and RAP Rule 7A, the discharge into air from a non-moving source, including, but not limited to, industrial or trade premises, of the products of combustion from fuel burning equipment used for generating heat or electric power using—



- a. methane or natural or liquefied petroleum gas for the purposes of generating heat or electric power at a rate not exceeding 50 Megawatts; or
- b. untreated wood, coal or oil, excluding waste oil, for the purposes of generating heat or electric power at a rate not exceeding 10 Megawatts

where the limits specified in (a) and (b) above apply to the cumulative generated heat or electric power produced by the specified fuel within the same premises

is a **Controlled Activity** provided the following standards are met—

- i. the discharge is from a chimney; and
- ii. the chimney is designed so that the minimum efflux velocity is 10 metres per second at the chimney exit at full load for sources less than 10 Megawatt capacity, and 15 metres per second for sources equal to or greater than 10 Megawatt capacity; and
- iii. the chimney is designed so that the discharge is vertically upwards and unimpeded by cowls or any other fixtures on the top of the stack; coning may be used to increase the discharge velocity; and
- iv. the minimum chimney height conforms with the requirements in the First Schedule; and
- v. the opacity of the discharge when measured at the point of entry to the atmosphere does not exceed 20%, except that a discharge in excess of this shall be permitted for a period of not more than 2 minutes continuously or for an aggregate of 4 minutes in any 60 minute period.

7.2 The Council will exercise control over the following matters in relation to these activities:

- a. the location of the point of discharge;
- b. operating times;
- c. the payment of administrative charges;
- d. the taking and supplying of samples;



- e. the carrying out of measurements, samples, analyses, surveys, investigations or inspections;
 - f. the provision of information to the Council at specified times;
 - g. compliance with monitoring, sampling and analysis conditions at the consent holder's expense; and
 - h. fuel types and quantities.
- 7.3 The information required with consent applications for this activity is set out in Section 20 of the Plan.
- 7.4 Subject to Section 94 (5) of the Act, the Council will consider consent applications for this activity without notification or the need to obtain the written approval of any person.

Explanation

This rule applies to all non-moving sources, whether or not they are industrial or trade premises. With regard to the standard in clause 7.1.(iii), rain deflectors must not impede the smoke discharge from discharging vertically upwards. Chimneys are part of a building and subject to compliance with the Building Act and relevant district plan for the area.

The burning of waste oil is not permitted under this rule. Open burning of waste oil is a Prohibited Activity (see RAP Rule 9); incinerated burning of waste oils is a Discretionary Activity (see RAP Rule 17).

Rule 7A: Discharges from fire training activities

The discharge of any contaminants into air arising from the combustion of material for the purpose of fire training

is a **permitted activity** provided-

- i. the discharge takes place under the control of a Fire Authority in terms of the Forest and Rural Fires Act 1977; or
- ii. the discharge takes place under the control of a Fire Brigade established under the Fire Service Act 1975; and
- iii. the discharger notifies the Manawatu-Wanganui Regional Council at least two working days prior to any discharge occurring.



Explanation

This rule applies to all discharges associated with fire training activities. There is an operational requirement to burn certain materials (i.e. fuels, tyres) when undertaking some fire training activities. This is necessary in order to provide fire fighting personnel with a realistic training environment. These activities are carried out by Fire Authorities or Fire Brigades in a controlled environment and are of short duration.

RAP Rule 8: Open burning of non-vegetative or mixed waste

Except as allowed by RAP Rule 5 and RAP Rule 7A, but subject to RAP Rule 9, the discharge into air of the products of combustion from the open burning of mixed domestic waste, municipal or industrial or trade waste material, and the burning of vegetative waste mixed with animal waste (except in the case of the burning of crops that have been grazed), on any property (including at landfills and on residential properties)

is a **Non-complying Activity**.

Explanation

Open burning of waste does not allow the combustion process and temperature to be adequately controlled. Plant waste mixed with animal waste, such as stable waste can cause significant smoke and odour nuisance. Open burning of any material at landfills is particularly difficult to control because of the presence of landfill gases.

For this reason, while the burning of waste materials such as plant waste may be allowed as a Permitted Activity on properties other than industrial or trade premises, it will not be allowed at a landfill or other industrial or trade premise except in accordance with Section 105 (2)(b), which states the circumstances where an application for a non-complying activity can be granted. These circumstances are that the effects of the activity will be minor and that granting the consent will not be contrary to the objective and policies of the Plan. Open burning is defined in the glossary and includes burning in open drums where the combustion process is uncontrolled.

The enclosed incineration of waste materials is a discretionary activity in accordance with RAP Rule 17.



RAP Rule 9: Open burning of specified materials

Except as allowed by RAP Rule 7A the open burning of—

- a. materials associated with the recovery of metals from insulated electrical cables; or
- b. materials and metals that are components of motor vehicles; or
- c. any other PVC plastic, or rubber products (including tyres), waste oils, treated timber, or agricultural chemical wastes.

is a **Prohibited Activity**.

Explanation

Open burning does not allow the combustion process to be controlled sufficiently to avoid or mitigate adverse effects. Burning the materials specified in this Rule can result in the emission of hazardous substances in the discharge. PVC plastic is referred to as number 3 plastic on most products. Open burning of this product gives off highly toxic smoke that may contain phosgene and dioxins. Treated timber is any timber treated with preservatives, including copper-chrome-arsenic, boron compounds, or creosote, but does not include timber that has been treated with anti-sapstain compounds only. Agricultural chemical wastes, waste oils and treated timber are defined in the Glossary.

The Council will be promoting compliance with this rule through provision of information, and, if necessary, enforcement action.

13.1.4 Discharges from abrasive blasting

RAP Rule 10: Abrasive blasting (other than using a mobile source)

The discharge of contaminants from abrasive blasting, other than from a mobile source, into air

is a **Permitted Activity** provided—

- a. all items blasted are within an abrasive blasting enclosure; and



- b. for dry blasting -
 - i. the filter for the discharge from the blasting enclosure shall be designed to achieve a particulate matter concentration of not more than 125 milligrams per cubic metres (NTP) and shall not exceed 250 milligrams per cubic metre (NTP); and
 - ii. the final discharge from the dust control equipment shall not be visible and the dust deposition rate above background levels at any site, or beyond the property boundary does not exceed 4 g/m²/30 days; and
 - iii. sand, or any other material used for abrasive blasting, contains less than 5% free silica on a dry weight basis.

Explanation

A condition limiting the constituents of the material being blasted (e.g. lead in paint on the structure being blasted) has not been included in this rule because the conditions should be sufficient to avoid any dangerous deposition off-site. Further, the operator often does not know what chemical elements the surface contains.

RAP Rule 11: Abrasive blasting of fixed structures and bridges using mobile plant

The discharge of contaminants to air from the abrasive blasting of fixed structures and bridges using a mobile plant

is a **Permitted Activity** provided—

- a. the Council is notified of the location and duration of the proposed operation at least 10 working days before the proposed commencement of the work; and
- b. if the structure to be blasted is closer than 200 metres to a property boundary or a dwelling place, the owner or occupier of that property or dwelling is advised of the proposed work, including information about the dates and location of any blasting, at least 24 hours and no more than two weeks before the commencement of the work by either individual notification or newspaper advertisement; and
- c. any abrasive media not in use is kept covered so that it cannot be blown around by wind; and
- d. the abrasive contains no more than 5% free silica; and



- e. all debris and used blasting materials are removed from the site when operations are completed and at least daily; and
- f. there is no objectionable deposition of dust on any other property.

Explanation

The conditions in this rule are consistent with those that have been included as conditions on discharge permits for this activity. All practicable steps should be taken to avoid deposition of blasting material on a river bank and in rivers, in particular, by using screens, covers, tarpaulins, claddings or other such means. Conditions (c) and (f) are in accordance with recommendations from the New Zealand Abrasive Blasting Association Section 15 of the Resource Management Act states that no person may discharge any contaminant into water unless the discharge is expressly allowed by a rule in a regional plan, a proposed regional plan, a resource consent or regulations. Any discharge to water that occurs as a result of abrasive blasting operations therefore requires a resource consent from the Regional Council unless allowed by a regional plan. Relevant regional plans are the Manawatu Catchment Water Quality Regional Plan which addresses discharges to water in the Manawatu Catchment and the review of the Transitional Regional Plan which address discharges to water elsewhere in the Region.

Advisory note

Any maintenance (including abrasive blasting) of bridges and fixed structures over, or in the beds of rivers and lakes must comply with rules addressing maintenance in the Proposed Regional Plan for the Beds Rivers and Lakes and Associated Activities.

13.1.5 Discharges from waste management processes

RAP Rule 12: Discharges associated with storage, transfer, treatment and disposal of waste

Subject to RAP Rules 6, 7, 8 and 9, the discharge of dust and odour into air from any source (whether mobile or not) that is used for the storage, transfer, treatment and disposal of solid or liquid waste materials or for other waste management purposes or for composting organic material.

is a **Permitted Activity** provided—

- a. there is no objectionable odour or objectionable deposition of dust at or beyond the property boundary or on public land.



Explanation

The rule applies to solid wastes or liquid wastes, including facilities used for wastewater treatment or solid waste recycling. This rule provides only for discharges to air of dust and odour, and includes discharges from sewage pumps, sewage treatment plant venting systems, sewerage pipes, and sewerage manholes. This rule does not provide for the discharge of landfill gases or the discharge of contaminants present in wastewater discharged to air, such as microbial contaminants (where there are potentially significant health and safety issues). These discharges are controlled by Rule 17 as discretionary activities.

Discharges of contaminants to land on premises used “for the storage, transfer, treatment or disposal of waste materials or other waste management purposes, or for composting organic material” require a discharge permit by Section 15(1)(d) and Section 418(c) of the Act, unless permitted by a rule in a regional plan.

The Council requires land discharge permits for these premises and seeks from the owners of those sites, site management plans that address site development, operational and post closure activities consistent with recognised landfill guidelines.

Effects of dust and odour that arise from the discharge of waste to land or water can be effectively managed as part of the land discharge permit or the water discharge permit. For example, by including conditions relating to daily covering of the tipping face, restricted size of the tipping face, and fencing. It is not necessary to require separate discharge permits for discharges to air of, dust and odour unless the conditions of this rule are not met.

Discharges of odour from sewage and wastewater treatment facilities are permitted by this rule provided the discharge does not breach the conditions. Facilities that have already breached the conditions require consents, unless they show that they have solved the problem.

Discharges to air that arise from particular land uses can also be controlled by methods, including rules, in district plans (see Method 4 in Section 13.10 of the Plan). This can include requiring minimum distances between sewage treatment facilities and other land uses.



13.1.6 Discharges from mobile sources

RAP Rule 13: Discharges from specified mobile sources

The discharge of contaminants into air from

- a. equipment to treat road surfaces by heat to remove impaired surfaces;
or
- b. mobile aggregate crushing and screening plants; or
- c. mobile asphalt plants; or
- d. earthmoving or harvesting equipment

is a **Permitted Activity** provided—

- i. there is no objectionable deposition of dust on any other property; and
- ii. the discharge of dust from the source at any site where minerals or aggregates are dried or heated or prepared for the manufacture of hot-mix asphalt does not exceed 5 kg/hr; and
- iii. mobile asphalt plants are equipped with temperature sensors and aggregate proximity sensors that limit and control operating temperatures within the drum; and
- iv. air pollution control equipment for mobile asphalt plants is designed to achieve a particulate matter concentration of not more than 250 milligrams per cubic metres (NTP).

Explanation

This rule applies to particular mobile sources that are generally small-scale and produce temporary effects. The most noticeable adverse effect associated with these activities is dust. The conditions in this rule are consistent with those that have been included on discharge permits for these activities. Smoke is not associated with these activities unless there is a fire in the drum of the mobile asphalt plant. Fires of bitumen product in the drum cause considerable smoke problems and are difficult to extinguish. Avoiding such a fire is the best practicable option to avoiding the considerable effects the fire would cause.



The effects of land uses, such as roadworks, on air quality are controlled by district councils. This rule does not remove any need for a consent from a district council.

13.1.7 Discharges of agrichemicals

RAP Rule 14: localised application of agricultural chemicals or lime dust

The discharge to air from any property

- a. of agricultural chemicals using a hand-held appliance; or
- b. of agricultural chemicals using vehicle-mounted devices for spot spraying; or
- c. of lime dust associated with lime application to land

is a **Permitted Activity** provided—

- i. the application is undertaken in a manner that does not contravene any requirement specified in the agricultural chemical manufacturer's instructions; and
- ii. there is no discharge of agricultural chemical or lime dust to water; and
- iii. there is no agricultural chemical spray drift resulting in adverse effects beyond the target property boundary; and
- iv. there is no objectionable lime dust drift beyond the target property boundary when the application is on private land; or
- v. there is no objectionable lime dust drift beyond the target area of the discharge where the application is on public land; and
- vi. any lime dust cloud does not impair visibility on any road; and



- vii. where the application is being undertaken on public land or a school;
 - a. the person who will apply the agricultural chemicals has completed either the Growsafe Standard Course or the Growsafe Advanced Course or has completed a course providing an equivalent qualification (as defined in the Glossary) or where the application of chemicals is carried out by a commercial contractor that contractor is a Growsafe Registered Chemical Applicator; and
 - b. the person who will apply the agricultural chemicals has submitted a copy of their current Growsafe certificate to the Council; and
 - c. the application is undertaken in accordance with Part 5 of the New Zealand Standards 8409:1995, Agrichemical User's Code of Practice.

Explanation

This rule applies to the use of agricultural chemicals on any property, provided the application is from a hand-held appliance, or is directly applied to livestock as occurs when dipping sheep, or is spot-spraying. This rule manages agricultural chemicals use such as small scale spraying on private gardens, spot spraying on larger properties such as farms, and applying grass suppressants around trees in forestry plantations. The application of agricultural chemicals using appliances by means not described in this rule, such as tractor-drawn mist sprayers or sprayers attached to aircraft, are controlled by RAP Rule 15.

Agricultural chemicals are defined in the Glossary to mean any substance, whether inorganic, human-made or naturally occurring, modified or in its original states, that is used in any agriculture, horticulture or related activity, to eradicate, modify or control flora and fauna. For the purposes of this Plan agricultural chemicals do not include animal remedies, fertilisers or pheromones or any substance that does not change the physical, chemical or biological condition of air. Agrichemicals have the same meaning. The application of agrichemicals by wipers, which do not produce spray droplets and therefore do not affect air quality, are not restricted in this Plan. Spot spraying is defined in the Glossary as meaning spraying targeted to an area not exceeding two square metres.



The application of lime, which is a soil conditioner, can cause dust problems from suspended particulate matter and deposited particulate matter. Localised application of lime can be controlled by conditions in Rule 14 but widespread application of lime, such as from aircraft, is not allowed as a permitted activity because lime dust is very fine and cannot be accurately applied to a target area.

The application of fertiliser has been specifically excluded from the provisions of Rule 14 and Rule 15. The Council considers that it is most appropriate to address the application of fertiliser as a discharge to land or a discharge to water in the review of the Transitional Regional Plan.

RAP Rule 15: Widespread application of agricultural chemicals

15.1 Subject to RAP Rule 14, the discharge to air on any property of agricultural chemicals from aerial or land-based sources

is a **Permitted Activity** provided—

- a. the application is undertaken in a manner that does not contravene any requirement specified in the agricultural chemical manufacturer's instructions; and
- b. there is no agricultural chemical spray drift resulting in adverse effects beyond the target property boundary; and
- c. the person who will apply the agrichemicals has completed either the Growsafe Standard Course or the Growsafe Advanced Course or has completed a course providing an equivalent qualification (as defined in the Glossary) or where the application of chemicals is carried out by a commercial contractor that contractor is a Growsafe Registered Chemical Applicator, and every pilot undertaking the aerial application of agricultural chemicals shall hold a current Growsafe Pilot's Agrichemical Rating Certificate of Qualification; and
- d. the person who will apply the agricultural chemicals has submitted a copy of their current Growsafe Certificate to the Council; and
- e. the application is undertaken in accordance with Part 5 of New Zealand Standards 8409:1995, Agrichemical Users' Code of Practice; and
- f. notice is given in accordance with clause 15.2 or 15.3 of this Rule.



- 15.2 Where agricultural chemicals will be applied to more than one kilometre of public road or railway verge, continuously or intermittently, notice of intention to spray must be given in local newspapers or by door-to-door advice to occupiers of properties or premises within 50 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 public road or railway line to be sprayed; and
 - b. the period when spraying will occur; and
 - c. the brand name and chemical name to be used; and
 - d. how the agricultural chemicals will be applied; and
 - e. safety precautions to be taken; and
 - f. where or how further information about the spraying can be obtained; and

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

- 15.3 Where the application is on private land and within 50 metres of an adjacent property:
- a. the property owner or occupier shall prepare a property spray plan at the beginning of each year or spray season which includes:
 - i. a list of immediate neighbours, and their contact phone numbers;
 - ii. details of road boundaries, noting roads used by school children;
 - iii. the crops to be sprayed and a list of the chemicals likely to be used during the year or season;
 - iv. whether aerial application of agrichemicals may be used;



- v. identification of sensitive areas (e.g. residential buildings, school buildings, amenity areas, public water supply catchments, water bodies, sensitive crops or farming systems, wetlands, public roads), and the strategies employed to avoid contamination of those areas;
 - vi. the name and contact phone number of those carrying out the agrichemical application;
 - vii. particular weather conditions which may increase potential spray drift hazard to sensitive areas;
 - viii. indication of agrichemicals to be used that may present specific hazard; and
- b. Upon request, the spray plan shall be given to the owner or occupier of any adjacent property, and the Manawatu-Wanganui Regional Council at the beginning of each year or spray season; and
 - c. Where requested by a neighbour, the owner or occupier of the property where spraying is to be undertaken or their agent shall make all reasonable effort to advise that neighbour of their intention to spray. The advice shall be verbally or in writing and provided to the neighbour not less than eight hours, and not more than one month before the proposed commencement of the work.

15.4 Clause 15.1(d) does not take effect until 1 December 1999.

Explanation

This rule applies to the spraying of agricultural chemicals other than by methods described in RAP Rule 14. This rule manages the application of agricultural chemicals by methods such as from aircraft or by tractor drawn mist sprayers, and includes application to commercial crops, pasture used for agricultural purposes, and forestry.

Part Five of the NZS 8409:1995 Agrichemical User' Code of Practice includes requirements and recommendations for the application of agrichemicals. Applications undertaken in accordance with this section of the code should avoid or significantly reduce the risk of spray drift. All people who complete the Growsafe course have a copy of this Standard. Horticulturalists are already required to attend Growsafe courses if their products are exported by ENZA.



Every person applying widespread agricultural chemicals must submit their Growsafe certification to the Council in accordance with 15.1(d). Where a complaint is being investigated, and a certificate has not been lodged, the person who applied the agricultural chemicals will be required to make their certification available to the Manawatu-Wanganui Regional Council on request. Agricultural chemicals are defined in the Glossary. This plan addresses the adverse effects of discharges of contaminants to air on air quality, and the effects of degraded air quality on people's health and the environment. For this reason, only agrichemicals that can cause aerosol effects when applied to the target crop or pest are addressed in this plan. Notification reflects recommended practice in the Agrichemical Users' Code of Practice, Appendix S.

Note that any discharge to water requires a resource consent unless otherwise allowed by rule in a regional plan (see Section 15 NZRMA).

Advisory note

Advisory note: Annex B contains model notification forms which can be copied and used for any notification (or used to provide guidance on what is required for notification) undertaken in accordance with Rule 15.2 or 15.3. model spray plan to assist property owners and occupiers in preparing their own spray plans is also provided.

13.1.8 Discharges from particular premises

RAP Rule 16: Discharges from particular premises

Subject to RAP Rules 1, 2, 3, 4, 6, 7, 8, 9 and 10, the discharge of contaminants into air from:

- a. Premises used for the retail and wholesale distribution of automotive fuels, oils, liquefied gases and gases;
- b. Premises used for the retail and wholesale distribution of fuels used for industrial processing and home heating;
- c. Premises used as or associated with funeral parlours, chapels, stonemasons;



- d. Premises used as or associated with the manufacture of household, industrial, electrical and garden equipment and appliances, including the manufacture of concrete products, but excluding the manufacture of cement, rubber goods and processes involving the galvanising of steel;
- e. Premises used for the application of surface coatings, including printing or manufacture of packaging materials, and printing of paper;
- f. Premises used for manufacture of furnishings, clothing, carpets, but excluding rubber underlay;
- g. Premises used for the sale, servicing, or repairs to motor vehicles, trains, trailers, boats or like equipment, including body and engine repairs, panel beating, fibre-glassing, and painting when carried out in a booth or enclosure that has been designed to contain any emission of paint overspray;
- h. Premises used for joinery, including the manufacture, restoration or finishing of furniture and wood crafts, and cabinet making;
- i. Premises used for the operation of dry cleaning, dyeing, laundering and cleaning facilities;
- j. Premises for the manufacture of beverages, including soft drinks, extraction of fruit juices, fermentation of wine, distillation of spirits, and alcoholic beverages;
- k. Premises used for food processing by deep fat frying or oil frying of any animal or vegetable matter where the processes have either singly or together a raw material capacity less than five tonnes an hour;
- l. Premises used for the processing and/or storage of food, including baking, cooking, freezing and canning, but excluding premises used for the production of milk powders using dryers with a water evaporation capacity greater than 300 kilograms/hour;
- m. Premises used for the storage, blending and distribution of bulk products, including fertiliser, animal feeds, roading materials, gardening materials, and concrete processing materials;
- n. Yards used to hold cattle or stock and buildings used solely for animal slaughtering;



- o. Premises used for the drying of grain and vegetable matter;
- p. Premises used for powder coating and spray painting;
- q. Premises used for the storage of food in refrigerated units;
- r. Factory farms, including intensive pig and poultry farming;
- s. Premises used for saw milling;
- t. Premises used for timber treatment and the drying of timber (including kiln drying), but excluding the manufacture of any form of particleboard (as defined in the Glossary);
- u. Extraction, processing in fixed plant (crushing and screening), storage, and distribution of aggregates;
- v. Development, maintenance, use, repair, or demolition of industrial or trade premises and which are not otherwise provided for by rules in this Plan, including site development, subdivision and landscaping, and the installation, construction, maintenance, use or demolition on the premises of roads, paved areas, buildings, structures or equipment

is a **Permitted Activity** provided—

- i. there is no objectionable odour at or beyond the property boundary; and
- ii. there is no objectionable deposition of dust at or beyond the property boundary; and
- iii. the discharge does not result in any noxious or dangerous level of airborne contaminants from the point of discharge.

Explanation

This rule applies to discharges from industrial or trade premises where the Council is satisfied that the discharge would cause little or no adverse effect. Many industrial and trade premises, such as fish and chip shops, produce discharges that cause little or no effect and the Council is satisfied that they should not be required to obtain a resource consent provided the conditions in this rule are met. Discharges from premises carrying out the same activity on a larger scale can cause adverse effects, in particular effects of odour.



Deep fat frying of plant or animal matter in capacities in excess of 5 tonnes an hour was a Part A process under the Clean Air Act, and requires a discharge permit in accordance with RAP Rule 17. Guidance on how noxious and dangerous will be assessed is provided in Section 13 of the Plan.

13.1.9 Discretionary activities

RAP Rule 17: General Discretionary Activity Rules

- 17.1 Subject to RAP Rules 8 and 9, any discharge of contaminant into air from:
- a. an industrial or trade premises or factory farm, where the discharge is not specifically provided for, or is provided for but does not meet the conditions of RAP Rule 16; or
 - b. any non-mobile source where the discharge is specifically provided for but does not meet the conditions of any of RAP Rules 1, 2, 3, 4, 5, 6, 7, 10, or 12; or
 - c. any moving or mobile source where the discharge is specifically provided for but does not meet the conditions of any of RAP Rules 11, 13, 14, or 15; or
 - d. the storage, transfer, treatment or disposal of waste, including combustion for the recovery of energy, that is not specifically provided for in RAP Rule 12

is a **Discretionary Activity**.

- 17.2 The information required with consent applications for any activity included in this rule is in Section 20 of the Plan.

Explanation

This rule applies to all air discharges that do not meet the conditions that apply to that particular type of discharge, and to any discharge from an industrial or trade premises unless that discharge is specifically provided for in RAP Rule 16. It is not appropriate, nor consistent with Policy 1 of this Plan, to restrict discharges from premises other than industrial or trade premises, unless the discharge has the potential to cause significant adverse effects on the environment. If the relevant conditions of particular Permitted Activity Rules are not met, it is appropriate that they become Discretionary Activities under this rule.



This plan does not restrict discharges from moving or mobile sources whether or not located on an industrial or trade premise except as specifically provided in Rule 11 (abrasive blasting of fixed structures and bridges using a mobile plant), Rule 13 (discharges from specified movable sources), and Rules 14 and 15 (discharges of agricultural chemicals). Discharges of, for example, products of combustion from petrol chain saws or motor vehicles are not restricted by this Plan. If an activity involving a discharge to air is not restricted by Section 15 (1) (c) of the Act, or by a rule in this Plan, then that discharge is allowed as of right.

Discharges that are controlled by this rule include, but are not restricted to, the following activities:

- composting operations on industrial or trade premises that do not meet the conditions of RAP Rule 12;
- controlled combustion of treated timber or wood;
- crematoria;
- non-mobile asphalt plants;
- tanneries, fellmongeries and skin and hide processing plants;
- woolscourers and dag crushing plants;
- premises used for the production of milk powders using dryers with a water evaporation capacity greater than 300 kilograms/hour;
- premises used for the manufacture of cement, rubber goods, and galvanising steel;
- burning waste oils in an incinerator;
- non-mobile open air abrasive blasting plants;
- gas-fired thermal electric power station generating more than 50 MW, or coal or oil fired thermal electric power station generating more than 10 MW;
- discharges from premises used for the manufacture of particle board (as defined in the Glossary);
- deep fat frying or oil frying of any animal or vegetable matter where the processes have either singly or together a raw capacity of more than five tonnes an hour.



13.2 Other Methods of Implementation

13.2.1 Promotion of voluntary performance standards

RAP Method 1 - Liaison with industry

The Regional Council will liaise with industry groups and promote the use of industry guidelines and codes of practice for avoiding, remedying or mitigating adverse effects from the discharge of contaminants into air.

RAP Method 2 - Agrichemical Users' Code of Practice

The Regional Council will promote adherence to the New Zealand Standard NZS 8409:1995 "Agrichemical Users' Code of Practice" (New Zealand Agrichemical Education Trust, 1994), and co-ordinate with industry to provide further information and advice about agrichemical spray handling, use and disposal as appropriate.

13.2.2 Inter-organisational arrangements

RAP Method 3 - Consultation with territorial authorities

The Regional Council will consult with Territorial Authorities during the preparation and review of District Plans to advocate the need to reduce adverse effects from nuisances, including odour and dust, through land use planning. The Regional Council will consult with territorial authorities during any review of the Regional Air Plan, where monitoring information is produced and in any other circumstances where appropriate in order to help meet the objective of the Plan.

RAP Method 4 - Integration with Building Act

The Regional Council will advise Territorial Authorities of the requirements of this Plan with regard to discharges to air that require a resource consent from the Regional Council and where there are structures, such as chimneys, associated with the discharge that require permits under the Building Act.



RAP Method 5 - District council land use consents

The Regional Council will advise Territorial Authorities of the conditions of all Permitted Activity rules in this plan, in particular, the conditions relating to activities such as roadworks, so that they apply appropriate conditions on their land use consents.

The Regional Council will advise the relevant district council of all notified consent applications for discharge permits within their district.

RAP Method 6 - Memorandums of Understanding

The Regional Council will draw up Memorandums of Understanding with other agencies (including other Regional Councils and District Councils) where appropriate in order to clarify responsibilities in relation to the management of air quality.

13.2.3 Compliance

RAP Method 7 - Agrichemical application

The Regional Council will advise persons involved in aerial and other widespread application of agricultural chemicals in this Region informing them of the requirements of RAP Rule 15.

13.2.4 Education

RAP Method 8 - Prohibited Activities

The Regional Council will provide information and education about the open burning of materials described in RAP Rules 8 and 9. In particular, the Regional Council will inform the public about the prohibition on open burning of materials such as tyres.

14. Reasons for adopting the methods of implementation

Section 14 sets out the reasons for adopting all methods of implementation in this Plan as required by Section 67 (1)(e) of the Act. The Council has also prepared a Background Report in accordance with Section 32 of the Act, to fulfil our duties to consider alternatives, assess benefits and costs. This section is complementary to that report.



14.1 Adoption of regulatory methods

The Act imposes a regulatory framework on air quality management (see Section 2 of the Plan). Section 15(1)(c) of the Resource Management Act states that no person may discharge any contaminant from any industrial or trade premise into air unless the discharge is expressly allowed by a rule in a regional plan and in any relevant proposed regional plan, a resource consent or regulations.

Regional rules have been used in the Plan to deregulate the management of many discharges to air while ensuring that air quality in the Region is maintained or enhanced. This management regime has been adopted because it is consistent with the framework of the Act to do so and because alternatives were considered unsatisfactory in achieving the purpose of the Act.

In accordance with Policy 1, the Plan provides for discharges of contaminants into air from industrial or trade premises to be permitted activities, except where any adverse effects on the environment from such discharges will be more than minor. Conditions specifying environmental standards for different types of adverse effects have been established to provide limits within which industrial and trade premises can operate.

14.2 Rules relating to ventilation

RAP Rules 1 and 2 have been adopted to implement Policy 1(a). Potential adverse effects associated with the discharge, such as noise, are addressed by methods in district plans.

14.3 Rules for discharges of water vapour, heat and energy

RAP Rule 3 provides performance standards to avoid adverse effects on amenity values. Discharges of steam do not produce any other adverse effects on the environment and it is unnecessary to require any regulation of the discharge quality.

RAP Rule 4 has been adopted to implement Policy 1(a). Heat and or energy are included in the definition of a “contaminant” in Section 2 of the Act. The discharge of heat and energy from industrial and trade premises would therefore require a discharge permit by Section 15 of the Act. This rule provides for such discharges to be permitted because the effects of discharges of heat or energy into the atmosphere on a local scale are minimal. Heat and energy disperse rapidly in air, and are unlikely to have any effect on the environment, unlike the adverse effects on aquatic life that can arise if heated wastewater is discharged to watercourses.



This rule also provides for the release of radiation from radio and television transmitters, electricity transmission lines, and other sources. These sources generate relatively low radiation which reduces with distance.

X-rays are released in a range of industrial processes such as testing the integrity of pipes, welding and structures. The control of radiation is administered by the National Radiation Laboratory under the provisions of the Radiation Protection Act. Permitting these activities avoids the duplication of current legislative requirements and controls relating to radiation.

14.4 Rules for discharges of products of combustion

RAP Rules 5, 6, and 7 have been adopted to implement Policies 1 and 6. These rules provide certainty to users and contribute to administrative efficiency for managing activities that produce smoke and other products of combustion.

Burning is a method of disposing of wastes, particularly when alternative methods of disposal are unavailable. RAP Rule 5 does not address animal waste and other non-plant organic waste because such waste has high moisture content and can generate excessive smoke and objectionable odours when burnt. The conditions on Rule 5 are necessary to avoid adverse effects on amenity values.

RAP Rule 6 provides for minor discharges of smoke and other products of combustion from small scale fuel burning equipment. Many houses have such appliances and such discharges from premises other than industrial or trade premises are allowed as of right under the Act. It is unnecessary for the same discharges from industrial or trade premise to be managed differently. The conditions adopted in this rule are necessary to provide consistent management of these discharges and to avoid adverse effects on human health and amenity values.

RAP Rule 7 provides for the discharge of the products of combustion from larger than domestic fuel burning equipment. Many of these discharges would be from industrial or trade premises, but schools, hospitals and other premises may also have such equipment. The conditions in this rule are necessary to avoid or mitigate adverse effects on amenity values, human health and property, in accordance with Policy 6.

Condition (i) is necessary to control the point of emission. Requiring that pollutants are discharged at a sufficient height above ground level promotes the effective dispersal of contaminants into the air in such a manner that contamination of land and water is avoided or mitigated.



Condition (ii) is necessary to promote the effective dispersal of contaminants. This is important for managing products of combustion, which can contain relatively high levels of contaminants. This condition is based on an acceptable technical standard for promoting the adequate atmospheric dispersal of contaminants.

Condition (iii) is necessary to ensure that the discharge is released upwards unimpeded and not directed downwards where it can affect neighbours. Coning can be used to increase efflux velocities.

Condition (iv) is necessary to ensure that there is adequate dispersal of contaminants such as nitrogen and sulphur oxides so that adverse environmental effects can be avoided or mitigated. Nitrogen and sulphur oxides are created by the combustion of natural or liquefied gas, coal and oil, and untreated wood. Limits on the use of different types of fuels have been set based on the total generated heat or electric power. These limits, which are based on accepted technical standards, recognise that certain types of fuels release different levels and types of contaminants, beyond which there may be more than minor adverse effects on the environment. These limits apply to the total heat or power generated within any particular premises, to avoid the cumulative effects of a number of smaller combustion sources.

The many factors involved in determining an appropriate minimum chimney height are so diverse and complex that it is impracticable to define all the potential circumstances in a Permitted Activity Rule. Classifying such a discharge as a Controlled Activity ensures that chimney heights are set at appropriate height to promote the dispersal of contaminants into the atmosphere. Consents must be granted, and the Council may only include conditions on the consent relating to the matters in clause 7.2. This is necessary to ensure that chimneys are built according to site-specific conditions.

The determination of minimum chimney heights is based on accepted technical methods for ensuring that ground level concentrations of contaminants from such sources do not exceed standard minimum levels. Standards for the design of chimneys are also necessary to minimise downdrafts in the lee of the chimney, thereby avoiding the deflection of contaminants with insufficient dispersion towards the ground.

The combustion of any fuel generates airborne contaminants. In conventional fuel burning equipment, sulphur dioxide and the oxides of nitrogen are of most concern in terms of the potential for adverse environmental effects. The most accepted practical method of setting standards for the discharges of these contaminants is maximum ground level concentrations.



The publication of “Ambient Air Quality Guidelines for New Zealand” by the Ministry for the Environment (July 1994) provides human health based bottom lines for air quality.

Where air quality is currently better than the levels specified in the guidelines, it should not be allowed to degrade to guideline levels. Chimney heights must be sufficiently high to allow effective dispersal of contaminants to ensure that these guidelines are not exceeded.

In flat terrain and in the absence of high buildings, simple formulae can be used to calculate the height of the chimney required for various fuels; these criteria are set out in Tables 2 and 3 in the First Schedule to this Plan. If these criteria cannot be met, or if the sources are large, the discharge will be a Discretionary Activity under RAP Rule 17. In that case, the Council can determine adequate heights for a chimney by applying the criteria given in paragraph 2 in the First Schedule. If considered necessary, modelling may have to be carried out by the applicant.

The tables are developed from information published in the United Kingdom, the Australian States of Victoria and New South Wales, and the United States Environmental Protection Agency. The criteria applied are generally accepted technical standards for chimney height calculations in New Zealand.

The combustion of treated wood has been specifically excluded from RAP Rules 6 and 7, because the use of this material as a fuel in sufficiently large quantities may generate more than minor adverse effects on the environment. The discharge of combustion products from the burning of treated wood is a Discretionary Activity under RAP Rule 17 of the Plan. This is considered the most appropriate way to address the complexities and variances that can occur with the use of treated wood as fuel for combustion. Environmental standards are too complex and impractical to apply, having regard to the costs of implementing and monitoring the range of standards that would otherwise be required to address this issue.

Condition (v) is necessary to ensure that the combustion process is efficient. The emission of smoke from a chimney is an indicator of incomplete combustion, because smoke comprises particles of carbon and the products of incomplete combustion. The emission of these contaminants can affect the visual amenity of adjoining properties, and, if prolonged, can result in the fall-out of particles so that soiling can occur on neighbouring properties. Poor combustion efficiency may also result in the excessive use of fuel and can increase the emission of other combustion related contaminants, including carbon dioxide.



An opacity of 20% at the point of discharge corresponds to the accepted definition of “light smoke”. Any emission darker than this is considered to be less than efficient combustion. An opacity of 20% at the point of discharge may be converted to the equivalent light obscuration when measured in the flue by use of “Notes on the use of Ringlemann and Miniature Smoke Charts, Addendum Number 1 to BS 2742: 1969”. The opacity of smoke is a direct indicator of the discharge of contaminants into air, whatever the type of combustion or the fuels being burned. This condition is based on an accepted technical standard for opacity. Beyond this threshold it is likely that the adverse effects would be more than minor.

Rule 7A has been inserted to ensure that burning certain materials for the purposes of fire fighting training is a permitted activity. There is an operational requirement to burn certain materials (i.e. fuels, tyres) when undertaking some fire training activities. This is necessary in order to provide fire fighting personnel with a realistic training environment. These activities are carried out by Fire Authorities or Fire Brigades in a controlled environment and are of short duration.

RAP Rule 8 has been adopted to implement Policy 1(b). Open burning of municipal or trade waste results in an uncontrolled combustion process that can have significant adverse effects, particularly if the burning takes place at a landfill.

RAP Rule 9 has been adopted to implement Policy 1(c). Open burning of any of these materials results in an uncontrolled combustion process that can have significant adverse effects. These activities have demonstrated significant adverse effects on the environment and human health that cannot adequately be mitigated by way of resource consent conditions.

The burning of waste material in the open occurs at low temperatures and does not allow complete combustion. This incomplete combustion can cause large amounts of smoke, odours and the emission of many noxious contaminants. The insulation on the cable and parts of the motor body contain plastics, including PVC. The burning process gives off large amounts of highly toxic smoke (that may contain phosgene and dioxins). This poses a significant threat to public health, and can adversely affect fauna. Burning of treated timber can result in the emission of arsenic and produce ash containing copper, chromium and arsenic.



14.5 Rules for discharge to air from abrasive blasting

RAP Rules 10 and 11 have been adopted to avoid adverse effects from abrasive blasting from fixed and mobile plants. The emissions of dust from abrasive blasting contain materials from the surface being blasted and from the abrasive being used in the process. The contaminants in such emissions can create significant adverse effects on human health, amenity values and flora and fauna. For this reason, it is necessary that the discharge of these materials into air is appropriately managed on any site used for abrasive blasting. Emission and deposition standards are available for ensuring that the process does not cause dust nuisance to adjoining properties. Materials containing free silica are health hazards. Their use must be more strictly controlled to protect persons living or working in the vicinity from exposure. All items, blasted by a non-mobile source, must be blasted within an abrasive blasting enclosure to avoid off-site or on-site deposition of the blasted material.

A narrative standard for dust deposition has been adopted because deposition rates over time only represents averages and does not avoid deposition rates that may be objectionable or obnoxious in the short term. The numerical deposition rate has been included in this condition to assist the Council in taking enforcement measures, where necessary.

The Department of Labour's Occupational Safety and Health Service operates under the Health and Safety in Employment Act, the principal objective of which is to provide for the prevention of harm to employees at work. In interpreting this Act, the Occupational Health and Safety Service impose a limit of 5% free silica for all sand used in abrasive blasting. These controls relate to the health and safety of employees, and not to potential adverse effects on the environment in general. Free silica can have significant effects on the health of humans and animals, and, for this reason, an upper limit of 5% free silica in the material used for blasting has also been adopted for Rules 10 and 11. This provision will help limit emissions and require operators to use low silica or silica free blasting materials.

Abrasive blasting of structures such as bridges can form an extensive part of the maintenance programme to extend their useful life. This type of air discharge is not restricted under the Act, unless the discharge takes place on an industrial or trade premise or a factory farm. It is not necessary to require a resource consent for mobile sources, which may operate on a number of different sites throughout the year, provided the blasting is undertaken within appropriate performance standards. Including this rule provides clear guidance for undertaking an activity that can have adverse effects off-site. The conditions in this rule are necessary to avoid or mitigate dust nuisance and protect the health of persons in the vicinity who may be exposed to dust.



14.6 Rule for discharges from waste management processes

RAP Rule 12 has been adopted to implement Policy 1(b) with regard to wastes. Sites used for the storage, transfer, treatment or disposal of solid wastes are managed by district councils under the provisions of the Act in relation to land use. Discharges of contaminants into water, land or air are managed by regional councils.

Dust and odour are the main components that are likely to cause environmental effects from these operations in terms of discharges of contaminants into air. This rule provides a consistent approach to all such discharges, whether or not they arise from industrial or trade premises.

14.7 Rule for discharges from specified mobile sources

RAP Rule 13 has been adopted to implement Policy 1(a). The discharge of contaminants into air from these sources can create significant objectionable or noxious effects on nearby properties. These effects can be avoided provided the activity is undertaken within appropriate performance standards. It is not necessary to require a resource consent for these sources, which may operate at a number of different places throughout the year.

14.8 Rules for discharges of agrichemicals

RAP Rules 14 and 15 have been adopted to implement Policy 1(a). The conditions for these rules are necessary to avoid discharge of agrichemicals in a manner that is noxious, dangerous, offensive or objectionable to the extent that it has or is likely to have an adverse effect on the environment.

RAP Rule 14 restricts the localised application of agrichemicals unless it is undertaken in a manner specified by the manufacturer of the chemicals. This rule, which is the least regulatory method of control, is necessary to allow the Council to apply performance standards to avoid misuse of chemicals. Adverse effects on the environment arising from the hand-held application of agrichemicals can include damage to vegetation within adjoining gardens. Conditions (a) and (b) are necessary to ensure that chemicals are applied at the designed concentration and rate and to prevent any drift onto neighbouring properties.

RAP Rule 15 permits the application of agrichemicals other than by localised application, and applies to all premises and locations including those used for agriculture, horticulture and forestry. The conditions required for compliance with this rule are more restrictive than those required for localised application.



This is because there are greater quantities of chemicals applied by non hand-held devices, and they are applied over greater areas. Some agricultural chemicals, such as 2,4-D, which is a herbicide used for thistle control in the hill country, and Roundup can be applied by land-based or aerial application, while others, such as horticultural fungicides, are often applied by tractor-drawn mist sprayers.

Pilots are required by the Civil Aviation Authority to have completed a chemical rating course and passed the examination if they are applying agricultural chemicals from planes or helicopters. The course is taught at the open polytechnic institutions and more recently by the Agricultural Chemical Education Trust. Pilots are subject to enforcement action from the Civil Aviation Authority if they undertake this activity without having passed the chemical rating examination.

14.9 Rule for discharges to air from particular premises

RAP Rule 16 has been adopted to implement Policy 1(a). Emissions from these sources can be controlled by simple air pollution control equipment, methods or practices.

This rule provides a set of general conditions for the discharge of contaminants into air from all industrial and trade premises in regard to odour, dust and emissions that could adversely affect human health. These conditions are necessary to ensure that the environmental quality of the Region (including amenity values) is maintained or enhanced.

14.10 Rule for general management of air discharges

Rule 17 has been adopted to implement Policy 1(b) of the Plan. Activities that cannot comply with the conditions or standards in the relevant rules have the potential to cause significant adverse effects. Applications for resource consents for these activities need to be assessed on a case by case basis. The types of contaminants that may be discharged to air are extremely varied and the potential effects highly dependent on the receiving environment. These activities will need to be assessed in accordance with Policy 2.

14.11 Reasons for other methods of implementation

Methods 1 and 2 are necessary to ensure that discharges to air are managed by the most appropriate processes available. Codes of practice contain process and operation recommendations and requirements that have been developed by particular industries in association with organisations such as the Department of Labour and the Ministry for the Environment.



As such they are based on considerable expertise and experience and designed to be the most appropriate and effective methods to manage particular activities. Managing particular activities through the application of codes of practice and industry guidelines is more efficient and effective than developing separate case-by-case management processes.

Methods 3, 4, and 5 are necessary to achieve Policies 6 and 7.

Method 6 is necessary to ensure compliance with the conditions of rules in this Plan. Where an activity causes effects such as odour to occur, it is appropriate that management steps are taken to remedy those effects. These processes are best developed during the consent process where the community has the opportunity to be consulted.

Method 7 is necessary to ensure adherence to the requirements of this rule.

Method 8 is necessary to ensure compliance with this rule.

15. Alternatives

The Council considered other means in addition to or in place of the policies and rules of this Plan, to achieve the purpose of the Act with respect to air quality in the Manawatu-Wanganui Region. These are described below.

Do nothing

Without the regulatory framework provided by this Plan, the Council would be reliant on Section 104 of the Act when assessing the permit applications for every discharge to air from an industrial or trade premise. This would not provide clear guidance for the consent process for the particular issues about air quality in the Region. Some discharges that could cause adverse effects, such as open burning of dangerous substances on residential properties, would not be controlled, while other activities that have minor effects, such as discharges of contaminated air from fish and chip shops, would require resource consents. This would not provide clear direction to maintain and enhance air quality in the Region, and it would not provide a management regime based on the effects generated by particular activities.

There are, nevertheless, some discharges to air where the Council does not need to take any action through provisions in a regional plan. This Plan adopts a “no action approach” for the management of most moving sources, and for most discharges that originate on non-industrial or trade premises. This is because this is consistent with Section 15 of the Act, which allows discharges from those sources unless they are specifically restricted by a rule in a regional plan, and because those sources are more effectively managed by national controls, for example, emissions from the transport sector, or by district councils through their responsibilities under the Health Act, for example backyard rubbish burning.

Providing information

Providing information and education alone to achieve the sustainable management of air in the Region relies on the community recognising that they can increase their net benefit by using the information. This benefit would accrue because of the long-term environmental benefit that would accrue, and the avoidance of adverse effects on neighbours, would be greater than the short-term cost to the individual. Providing information and education is likely to have little effect where resource users would lose private benefits by modifying their behaviour because of information provided to them. The Council is satisfied that education is best used to complement a regulatory approach.

Adopting minimum air quality standards

The Ministry for the Environment has produced air quality guidelines that set minimum limits necessary to protect public health and the environment. It is not appropriate to apply these standards in this Region, where air quality is so high. If air quality standards were adopted regionally, they would set a limit on the level of degradation allowed before air quality could present a threat to public health. However, there is likely to be considerable public concern if ambient air quality was allowed to degrade to those levels anywhere in the Region. Further, such degradation from such high air quality would be inconsistent with Part Two of the Act. The Council will have regard to these standards when setting conditions on resource consents (see Policy 3). The Council is satisfied that adopting minimum standards would only be appropriate around emission sources that have the potential to cause significant adverse effects.



16. Environmental Results Anticipated

The environmental results anticipated from the implementation of the policies and methods in this Plan are as follows:

- a. Regional air quality is enhanced or maintained.
- b. Ambient air quality does not adversely affect human health, animal or plant health, amenity values or cultural values.
- c. Ambient air quality does not adversely affect tangata whenua values.



PART FOUR MONITORING AND REVIEW

17. Monitoring

Monitoring and review are necessary components of environmental management. The procedures for monitoring and review in relation to this Plan are set out below.

17.1 Measurement requirements for discharges of contaminants into air

The discharge of contaminants into air shall be measured in accordance with the appropriate technical methods, including the following:

- a. **Measurement of particulate discharges:** The measurement of particulate discharges is to be carried out in accordance with the requirements of ISO Standard 9096:1992 (E) Stationary Source Emissions - (D) Determination of Concentration and Mass Flow Rate of Particulate Material in Gas-Carrying Ducts - (M) Manual Gravimetric Method, (also published as a British Standards 6069 (1992).
- b. **Measurement of the opacity of discharges:** The discharge is to be assessed either by a trained observer or measured in the flue by an instrument. The method of assessment shall be in accordance with British Standard BS2742:1969 and Addendum 1:1972.
- c. **Measurement of the concentrations of contaminants in the atmosphere:** The concentration of contaminants in the atmosphere is to be measured in accordance with the terms of Australian Standards Series AS 3580 (as at 1 February 1995), or other appropriate technical standard (as at 1 February 1995) if the contaminant is not listed in AS 3580.
- d. **Assessment of odour:** Regional Council staff will assess complaints about objectionable odour beyond the property boundary in terms of whether or not the odour is objectionable to a reasonable ordinary person. When considering the objectionableness of odour, Council staff will take into consideration the FIDOL factors, as listed in Section 13.



If the discharger disputes the Council Officer's assessment of the problem, or the problem is ongoing, then a number of approaches may be taken, these are listed in Section 13. If the discharge continues to be offensive or objectionable, then enforcement action may be taken. This could be in the form of an abatement notice, infringement notice, enforcement order or prosecution, pursuant to the Resource Management Act, 1991.

17.2 Monitoring

In accordance with Policy 2 of this Plan, the Council will require discharge quality monitoring, and/or ambient air quality monitoring, as a condition of granting a discharge permit for activities that may have a significant effect on the environment.

The Council is also preparing a Monitoring Strategy for the Region. The Strategy will identify and evaluate monitoring needs, and identify air quality indicators to be measured. The Strategy will include a time frame for monitoring priority indicators. The result will be a monitoring agenda, tailored to the specific air quality issues in the Region.

Results of monitoring will provide information necessary for the Council to undertake its policy and regulatory activities effectively including monitoring the effectiveness of the Regional Air Plan.

The Council's ongoing air quality monitoring programme will be summarised in each year's Annual Plan (prepared under the Local Government Act 1974). The monitoring programme will include direction for the management of compliance and complaints (including response, and effectiveness of response), sampling programme (including purpose, location, information sought, and results).

The procedures for monitoring the effectiveness of this Plan will take into account the Council's Regional Monitoring Strategy, the Regional Policy Statement, and other Regional Plans. The procedures will include:

- a. An assessment of compliance monitoring carried out in relation to individual discharge permits. The scale and nature of the monitoring of discharge permits will be undertaken in relation to the scale and nature of the particular permit.



- b. An assessment of unauthorised discharges to air, that is, discharges that do not comply with the conditions in a relevant rule or with conditions on a discharge permit. An assessment of whether abatement notices, infringement notices, or requiring a discharge permit is the most appropriate management requirement for such unauthorised discharges.
- c. Where appropriate, use of monitoring and research carried out by other agencies.
- d. The implementation of a regional air quality monitoring programme, on a priority-based long-term strategy.
- e. Where appropriate, use of information from iwi, territorial authorities, central government, other agencies, industry and the public.
- f. Statistics of complaints regarding air quality within the Region.

18. Plan Review

The Plan will be fully reviewed within 10 years as is required by Section 79 of the Act.





PART FIVE RESOURCE CONSENT PROCESS

19. Making an Application

Resource consents to undertake an activity restricted by a rule in this Plan must be obtained from the Manawatu-Wanganui Regional Council. Application forms are available from any office of the Council. Enquires and correspondence can be directed to the Manager, Consents, Manawatu-Wanganui Regional Council, Private Bag 11025, Palmerston North.

Section 36 of the Act provides for fixed charges or fees to be set for various administration and monitoring activities. The Regional Council sets and publishes these charges in its Annual Plan. Information about administrative charges for discharge permit applications can be obtained from any office of the Regional Council.

The air quality management framework, including rules, is in Part Three of this Plan. Discharges to air have been classified into activity types according to the level of environmental effect they are likely to cause. These activity types (Permitted, Controlled, Discretionary, Non-complying, and Prohibited) are defined by the Act and described in the Glossary of this Plan.

20. Information required with resource consent applications

All applicants for a resource consent to discharge contaminants into air under the provisions of this Plan must make their application in accordance with the procedures and requirements of the Act. The information that is required to be submitted with an application for a resource consent is set out in Section 88 and the Fourth Schedule of the Act.

In particular, applications must include an assessment of effects on the environment in accordance with the requirements in Section 20.1 and 20.2 below.



20.1 RAP Rule 7 Information Requirements

Pursuant to Section 88 (4) of the Act, applications for Controlled Activities described in RAP Rule 7 shall include, where relevant, the following information—

- a. A description of the location of the proposed activity, including the map reference from NZMS map, scale 1:50,000, and plans of the site showing the component parts of the proposed activity and the location of all emission points.
- b. Proof that the discharge complies with the standards in RAP Rule 7.
- c. A description of the receiving environment including:
 - i. a summary of all other combustion sources on the site;
 - ii. climatic conditions;
 - iii. prevailing wind speed, direction and frequency;
 - iv. the proximity of likely affected parties to the proposed activity;
 - v. the proximity of the discharge to any sensitive receiving environment.
- d. A description of any contingency measures proposed to avoid any accidental discharge, including discharges associated with breakdowns.
- e. The potential for reducing the quantity, or improving the quality, of the discharge at source.
- f. The results of any emission testing undertaken and any atmospheric modelling undertaken.
- g. An identification of those persons, including tangata whenua, interested in or affected by the proposal, a statement of the consultation undertaken (if any), and your response to the views of those consulted.
- h. Proposed monitoring procedures.



20.2 RAP Rule 17 Information Requirements

Pursuant to Section 88 (4) of the Act, applications for Discretionary Activities described in RAP Rule 17 shall include, where relevant, the following information—

- a. A description of the location of the proposed activity, including the map reference from NZMS map, scale 1:50,000, and plans of the site showing the component parts of the proposed activity and the location of all emission points.
- b. A description of the process including:
 - i. type and quantity of raw material, intermediate product(s), final product(s), byproducts, and waste stream(s);
 - ii. sources of air emissions;
 - iii. points of actual air discharges.
- c. A description of all air emissions from the activity including:
 - i. type(s);
 - ii. maximum and average discharge quantities;
 - iii. duration and frequency of discharge;
 - iv. emission control(s) and monitoring;
 - v. stack height in relation to building height and ground level;
 - vi. any dispersion equipment that may be attached to discharge points;
 - vii. fuel type and quantity, and heat output rating.
- d. A description of the receiving environment including:
 - i. whether there are any other air discharges, including on the same property, that may affect the proposed activity or quality of the receiving environment;
 - ii. climatic conditions;
 - iii. prevailing wind speed, direction and frequency;
 - iv. the proximity of likely affected parties to the proposed activity;
 - v. the proximity of the discharge to any sensitive receiving environment.
- e. A description of any actual or potential effects of the discharge, including effects on amenity values, human health, flora and fauna.



- f. A description of any contingency measures proposed to avoid any accidental discharge, including discharges associated with breakdowns.
- g. The potential for reducing the quantity, or improving the quality, of the discharge at source.
- h. The results of any emission testing undertaken and any atmospheric modelling undertaken.
- i. For applications to discharge agricultural chemicals, the training and qualifications of the operator.
- j. An explanation of why the applicant considers the activity proposed is the best practicable option. This will include an assessment of alternative process controls, discharge locations, process methods, and process materials.
- k. An identification of those persons, including tangata whenua, interested in or affected by the proposal, a statement of the consultation undertaken (if any), and your response to the views of those consulted.
- l. Proposed monitoring procedures.

20.3 Further information

In accordance with Section 92 of the Act, the Council may require further information if any significant adverse effects on the environment may result from the activity. This may include—

- a. Any possible alternative locations or methods for undertaking the activity and the applicant's reasons for making the proposed choice.
- b. Any possible alternative methods of discharge, including discharge into any other receiving environment.

The Council may also commission a report on any matters raised in relation to the application, including a review of any information supplied with the application (including any further information).



FIRST SCHEDULE

Minimum Chimney height requirements for discharges from fuel burning equipment for compliance with RAP Rule 7

1. In uncomplicated terrain without the presence of high buildings, or no other significant sources of air-borne contaminants, the height of any chimney discharging the products of combustion from conventional fuel burning equipment from the combustion of—
 - a. coal or oil where the release of sulphur dioxide or nitrogen oxides is individually less than 2 kg/hr: the minimum chimney height shall be the higher of either 8 metres above finished ground level or 3 metres above the highest substantial part of any building located within 40 metres of the chimney or any part of the building to which the chimney may be attached;
 - b. natural gas, liquefied gas or wood, where the release of nitrogen oxides is less than 0.5 kg/hour or the heat input is less than 2 MW: the minimum chimney height shall be the higher of either 8 metres above finished ground level or 3 metres above the highest substantial part of any building located within 40 metres of the chimney or any part of the building to which the chimney may be attached;
 - c. coal or oil where the release of sulphur dioxide is equal to or exceeds 2 kg/hour but is less than 50 kg/hr and the maximum energy release is less than 10 MW: the height of the chimney shall be calculated in accordance with Table 2;
 - d. natural gas, liquefied gas or wood, where the release of nitrogen oxides is equal to or exceeds 0.5 kg/hour but is less than 20 kg/hour and the maximum energy release is less than 50 MW: the minimum chimney height of the chimney shall be calculated in accordance with Table 3.



Table 2: Minimum Chimney Heights Where Coal or Oil is Used as Fuel (1.c)

Sulphur Dioxide Emission (kg/hour)	Chimney Height (metres)	Sulphur Dioxide Emission (kg/hour)	Chimney Height (metres)
2.0	8.5	14.0	20.3
2.5	9.5	15.0	20.6
3.0	10.4	16.0	20.9
4.0	12.0	17.0	21.1
5.0	13.4	18.0	21.4
6.0	14.7	19.0	21.6
7.0	15.9	20.0	21.8
8.0	17.0	25.0	22.8
9.0	18.0	30.0	23.7
10.0	19.0	35.0	24.4
11.0	19.4	40.0	25.1
12.0	19.7	45.0	25.7
13.0	20.0	50.0	26.2

Table 3: Minimum Chimney Heights Where Natural Gas, Liquefied Gas or Wood Used as Fuel (1.d)

Heat Input (MW)	Nitrogen Oxides Emission (kg/hour)	Chimney Height (metres)	Heat Input (MW)	Nitrogen Oxides Emission (kg/hour)	Chimney Height (metres)
2.0	0.5	8.3	14.0	4.5	11.7
2.5	0.6	8.5	15.0	4.8	11.9
3.0	0.8	8.7	16.0	5.2	12.1
4.0	1.1	9.1	17.0	5.6	12.3
5.0	1.4	9.4	18.0	5.9	12.5
6.0	1.7	9.7	19.0	6.3	12.7
7.0	2.0	10.0	20.0	6.7	12.8
8.0	2.4	10.3	25.0	8.6	13.7
9.0	2.7	10.6	30.0	10.6	14.5
10.0	3.0	10.8	35.0	12.7	15.2
11.0	3.4	11.0	40.0	14.7	15.8
12.0	3.7	11.3	45.0	16.9	16.4
13.0	4.1	11.5	50.0	19.0	17.0



-
2. For any discharge from a chimney—
- a. where the maximum energy release from the combustion of—
 - i. coal or oil exceeds 10 MW or the release of sulphur dioxide exceeds 50 kg/hour; or
 - ii. natural gas, liquefied gas, or wood exceeds 50 MW; or
 - b. in terrain where the land rises within 5 times the indicative height of the chimney to more than half the indicative height, or in the presence of buildings which have maximum height of more than 0.4 times the indicative height of the chimney, or where there are other significant sources of sulphur dioxide or nitrogen oxides—

the height of the chimney is to be determined so that the discharge will not give rise to contaminant levels in excess of an indicator level based on 40% of the New Zealand Air Quality Guidelines, Ministry for the Environment, 1994.



SECOND SCHEDULE EMISSIONS FROM COMBUSTION

Rules 8 and 9 of this Plan regulate the discharge of contaminants into air from combustion processes. For ease of implementation, they regulate heat release rates rather than emission rates of contaminants. However, it is important to consider what contaminants are emitted from combustion processes. This Schedule provides guidance on the nature of emissions which can be expected from the combustion processes regulated by Rules 8 and 9.

Emission rates can vary enormously, depending on fuel specification/ composition fuel quality, process of combustion, load, equipment age and technical sophistication, maintenance and operating practice, use of control systems and filters, and ambient conditions (temperature and humidity of feed air). It is very difficult to assign a particular emission to a particular activity, and the only way to determine this properly is by measurement. The tables in this Schedule include a *Worst* case, a **Typical** case, and a *Best* case.

FUEL USE

A first step in estimating emissions is to estimate the fuel used in the various processes (shown in Table 3). Assuming continuous operation of a process for one year, the fuel used will be:

$$\text{Annual fuel consumption (kg)} = \frac{\text{Process size (J/s)}}{\text{Fuel calorific value (J/kg)}} \times 3.1536 \times 10^7 \text{ s/y}$$

where:—

- Fuel calorific value is the energy released per unit fuel:

Natural Gas	36 MJ/m ³
LPG	46 MJ/kg
Oil	41 MJ/kg
Coal	25 MJ/kg
Wood	10 MJ/kg

- 3.1536 x 10⁷ S/y is the factor needed to scale the process to one year.



Table 4: Typical Fuel Use for Combustion Processes

PROCESS	SIZE	FUEL USE PER YEAR	RATE PER MW
Natural Gas	5 MW	4,400,000 m ³	880,000 m ³
	50 MW	44,400,000 m ³	
LPG	5 MW	3,400 tonnes	680 tonnes
	50 MW	34,000 tonnes	
Oil	40 kW	31 tonnes	770 tonnes
	10 MW	7,700 tonnes	
Coal	40 kW	50 tonnes	1,300 tonnes
		12,600 tonnes	
Wood	40 kW	130 tonnes	3,200 tonnes
	10 MW	31,500 tonnes	

KEY CONTAMINANTS

The key contaminants from combustion processes are as follows:

PM₁₀ The fraction of particulate matter in the air of size less than 10 micrometers.

Annual guideline: 40 µg/m³;
24 hour guideline: 120 µg/m³.

Both of these guidelines were under review at the time of writing this Plan.

CO Carbon monoxide.
8 hour guideline: 10 mg/m³;
1 hour guideline: 30 mg/m³.

NO_x Oxides of nitrogen, mainly NO, NO₂ and small amounts of NO₃.
Guidelines for NO₂ only:
24 hour guideline: 100 µg/m³;
1 hour guideline: 300 µg/m³.

SO_x Oxides of sulphur, mostly SO₂. Guidelines for SO₂ only:
Annual guideline: 50 µg/m³;
24 hour guideline: 125 µg/m³;
1 hour guideline: 350 µg/m³.

VOC Volatile organic compounds, usually light hydrocarbons, sometimes with small amounts of hazardous contaminants. No guidelines existed at the time of writing this Plan.

CALCULATION DETAILS

Taking the fuel consumption data (from Table 3) and standard emissions factors from the literature (USEPA (AP-42), WHO, IPCC or the Air Pollution Engineering Manual - see a “*Bibliography*”) for each of the key contaminants, the annual emissions can then be calculated according to:

Annual emissions = annual fuel consumption x standard emission factor.

The resultant emissions are reported in Table 4 for the three cases - worst, typical and best- based on the following assumptions:—

- sulphur content of coal = 1.0% by weight (range 0.4 to 2.0);
- ash content of coal = 4.0% by weight (range 3.0 to 5.0);
- density of LPG = 0.5 kg/l;
- density of fuel oil = 0.845 kg/l.

The ranges given are subjective, and are fairly rough estimates. At the extremes, it may be possible to find either very badly run equipment, or conversely highly efficient equipment which may lie outside these limits.

Emission Rates

Table 5: Typical Emission Rates for Combustion Processes

PROCESS	SIZE	EMISSION RATE BY CONTAMINANT				
		PM ₁₀ (kg/y)	CO (kg/y)	NO _x (kg/y)	SO _x (kg/y)	VOC (kg/y)
Gas/LPG	5MW	870	4,300	10,000	42	790
	worst	370	2,400	5,700	33	440
	5MW	210	1,400	2,500	24	180
	typical					
	5MW					
	best					
	50MW	6,700	81,000	390,000	420	29,000
	worst	2,100	28,000	200,000	330	4,000
Oil	50MW	700	25,000	37,000	240	1,300
	typical					
	50MW					
	best					
	40kW	22	22	260	120	12
	worst	9	20	86	120	6
	40kW	2	19	22	9	1
	typical					
Coal	40kW	350	280	930	2,000	53
	worst	250	120	410	880	3
	40kW	25	15	170	400	3
	typical					
	40kW					
	best					
	10MW	88,000	110,000	270,000	490,000	13,000
	worst	63,000	32,000	110,000	220,000	760
Coal	10MW	6,300	3,200	81,000	81,000	630
	typical					
	10MW					
	best					



Wood	40kW	440	1,400	180	13	110
	worst	160	250	42	5	19
	40kW	10	38	42	1	11
	typical					
	40kW					
	best					
	10MW	110,000	760,000	57,000	3,200	27,000
	worst	41,000	410,000	36,000	1,200	4,700
10MW	2,500	63,000	950	160	2,800	
typical						
10MW						
best						

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APPENDICES

Appendix A

Second Schedule of the Clean Air Act

The Second Schedule of the Clean Air Act, which was repealed by the Resource Management Act, contained the processes and activities that required licensing for discharges to air. Any activity or process established after 1 October 1991 that would have required a permit under the Clean Air Act requires a discharge permit under the Resource Management Act until a regional plan provides otherwise. The provisions of the Clean Air Act are reproduced below.

PART A - Processes subject to licensing by the Department of Health after application to the local authority

- [1. Any combustion processes (not being combustion processes for the drying of grain) involving fuel burning equipment, including flaring or incineration of trade wastes or refuse, which singly or together can be used to burn any combustible matter:
 - (a) At a rate of heat release exceeding 50 MW; or
 - (b) At a rate exceeding [[100 kg]] an hour where pathological material, garbage, refuse, or trade wastes are incinerated; or
 - (c) At a rate of heat release exceeding 500 kW where the products of combustion are used -
 - (i) To stove enamel; or
 - (ii) To bake or dry any substance that on heating releases dust or other air pollutants; or
 - (iii) To maintain reducing conditions in any manufacturing process; or
 - (d) At a rate, where the combustible matter is a combination of combustible materials which contains sulphur or arsenically treated wood or rubber or oil sludge or pitch or paint residues, that will incinerate in excess of 100 kg an hour of—
 - (i) Sulphur; or
 - (ii) Arsenically treated wood; or
 - (iii) Rubber; or
 - (iv) Oil sludge; or
 - (v) Pitch; or
 - (vi) Paint residues: or



- (e) At a rate, where the combustible matter is a combination of combustible materials which contains chemicals, plastics, or fibre in which fluorine, chlorine, phosphorous, or nitrogen has been chemically combined, that will incinerate in excess of 25 kg an hour of such chemicals, plastics, or fibre.]

- 2. Any industrial chemical processes, [excluding electro-plating processes], having as a product or by-product or emission any substance that can cause air pollution, including any processes used in:
 - (a) Bodying of natural oils or manufacture or reaction of monomers for production of synthetic resins, varnishes, and plastics; or
 - (b) Production of soap, grease, detergents, and surface active agents; or
 - (c) Synthesis or extraction of organic chemicals, including formulation of insecticides, weedicides, plant hormones, and like toxic or offensive organic compounds; or
 - (d) Production of inorganic chemicals, including concentration of acids and anhydrides, ammonia, and alkalis; or
 - (e) Production of phosphatic or nitrogenous synthetic fertilisers, including granulation of single or mixed fertilisers; or
 - (f) Any chemical manufacturing processes using or producing chlorine and any industrial processes using chlorine but only for other than water sterilisation and at rates exceeding 5 kg an hour; or
 - (g) Separation or concentration for manufacture or disposal of any uranium metal or compound or any radioactive substances.

- [3. Any animal or plant matter processes having singly or together a raw material capacity in excess of—
 - (a) 0.5 of a tonne an hour, and being processes for rendering or reduction or drying through application of heat to animal matter (including feathers, blood, bone, hoof, skin, offal, whole fish, and fish heads and guts and like parts, and organic manures....); or
 - (b) 5 tonnes an hour, and being processes for deep fat frying, oil frying, curing by smoking, roasting of berries or grains, or where organic matter including wood is subject to such temperatures or conditions that there is partial distillation or pyrolysis [[; or]]
 - [[c) 2 tonnes an hour, and being processes for the drying of milk or milk products]].]

- [4. Any process involving the extraction from the surface of the ground or from an open pit of minerals (including coal, coke, and carbon), or the size reduction and screening of such minerals, or the storage outside and above the ground of such minerals, or the drying or heating of minerals that on heating release dust or any air pollutant, being processes which, singly or together, -

- (a) Have or require -
 - (i) An opencast extraction capacity in excess of 100 tonnes an hour; or
 - (ii) A size reduction and screening capacity in excess of 200 tonnes an hour; or
 - (iii) A storage capacity in excess of 10,000 tonnes; or
 - (iv) A rate of heat release in excess of 2,000 kW; or
 - (b) Are part of a manufacturing process for portland or similar cements and pozzolanic materials; or
 - (c) Are part of a manufacturing process for the sintering, calcining, or roasting of metal ores in preparation for smelting or for burning of calcium or calcium-magnesium carbonates to produce calcium or magnesium oxides or hydroxides, or the expansion or exfoliation of minerals, or the dehydration of gypsum; or
 - (d) Are part of a manufacturing process for making hot-mix asphalt paving mixes; or
 - (e) Are part of a manufacturing process for making glass or frit from raw materials or making mineral wool or glass fibre, including application of any surface coating to the fibres.]
5. Any industrial metallurgical processes, including associated foundry practices, which involve:
- (a) The extraction, including electro-chemical methods of reduction, of any metal or metal alloy from its ore, oxide, or other compound; or
 - (b) The making of steel or the refining of any metal or modification of any alloy in the molten state by blowing with air, oxygen, or oxygen enriched air, or chlorine or other gases, or by addition of reactive chemicals or volatile fluxes and the use of oxygen lancing in scarfing and similar operations; or
 - (c) The manufacture of silicon or ferrosilicon or of metal powders or of alloys rich in any metals specified or described in clauses 1 to 3 of the First Schedule to this Act; or
 - (d) The melting of any metal or metal alloy, including secondary melting, and the sweating of scrap metal, where the aggregated melting capacity exceeds one tonne an hour; or
 - (e) Hot dip galvanising or other processes for the protection of surfaces by metal coating using fluxes.
6. Any industrial carbonising or gasification processes in which natural gas, petroleum oil, shale, coal, wood, or other carbonaceous material is subject to:
- (a) Pyrolysis, carbonisation, or destructive distillation, the solid liquid or gaseous products being recovered; or
 - (b) Gasification by partial combustion with air or oxygen or reaction with steam.

- [7. Any process (not being the purification by distillation of dry cleaning solvents at retail outlets) for the refining, purification, or reforming of hydrocarbons in or derived from natural gas, petroleum, shale, coal, wood, or other organic substances, and including:
- (a) Hydrocarbon separation or recovery by distillation or absorption and desorption or removal of carbon dioxide or condensable hydrocarbons from natural or manufactured gas; or
 - (b) Reforming including viscosity breaking by thermal and catalytic cracking and hydrogenation and alkylation and like processes, including preparation of ethylene or acetylene or other feed stock for chemical synthesis; or
 - (c) Refining to reduce sulphur or to improve other qualities with the aid of any substance specified in the First Schedule to this Act or by air blowing.]
8. Any industrial wood pulp or particle board processes in which:
- (a) Wood or other cellulose material is cooked with chemical solutions to dissolve lignin and the associated processes of bleaching and chemical and by-product recovery; or
 - (b) Hardboard or particle board or wood pulp are made by processes involving emission of air pollutants.
- [9. Any use of geothermal steam at a rate of heat release exceeding 5 MW.
10. Any industrial or trade processes involving the use of—
- (a) Di-isocyanates at a rate exceeding 100 kg an hour; or
 - (b) Organic plasticisers at a rate exceeding 100 kg an hour.
- [[11. Any process—
- (a) Which involves the production of compost from raw materials that contain municipal or domestic refuse and which has a raw materials capacity exceeding 10 tonnes per day; or
 - (b) Which involves the production of compost from raw materials that do not contain municipal or domestic refuse and which has on the premises at any time a volume of compost and raw materials exceeding 750 cubic metres.]]

12. Any process specified or described in Part B....of this Schedule that is owned or operated by a local authority where the process is situated within the area administered by that local authority.]

[13. Any fellmongery processes involving -

 - (a) The use of sulphides; or
 - (b) The treatment of fellmongery liquid wastes containing sulphides.]

PART B - Processes subject to licensing by local authorities

1. Any combustion processes involving fuel burning equipment, including flaring or incineration of trade wastes or refuse, not otherwise specified or described in this Schedule but which singly or together can be used to burn combustible matter:
 - (a) For any purpose at a rate of heat release exceeding 5 MW; or
 - (b) For the purpose of—
 - (i) The recovery of metals from insulated cable, motor vehicles, or any other mixture or combinations of metals and combustibles; or
 - (ii) The cleaning of drums or containers; or
 - (iii) Frost protection on more than one occasion in any period of 12 months by the use of fire pots [; or]
 - [[(c) At a rate not exceeding 100 kg an hour where pathological material, garbage, refuse, or trade wastes are incinerated; or]]
 - (d) At a rate, where the combustible matter is a combination of combustible materials which contains sulphur or arsenically treated wood or rubber or oil sludge or pitch or paint residues, that will incinerate in excess of 25 kg an hour but not in excess of 100 kg an hour of—
 - (i) Sulphur; or
 - (ii) Arsenically treated wood; or
 - (iii) Rubber; or
 - (iv) Oil sludge; or
 - (v) Pitch; or
 - (vi) Paint residues; or
 - (e) At a rate, where the combustible matter is a combination of combustible materials which contains chemicals, plastics, or fibre in which fluorine, chlorine, phosphorous, or nitrogen has been chemically combined, that will incinerate in excess of 5 kg an hour but not in excess of 25 kg an hour of such chemicals, plastics, or fibre.]

2. Any industrial or trade processes (not otherwise specified or described in this Schedule) for the [blending, packaging, or handling of] air polluting substances specified in the First Schedule to this Act including grain elevators or seed dressing plant but not processes solely concerned with retail distribution or with distribution of fuels.

- [3. Any industrial or trade animal or plant matter processes
 - (a) Described in clause 3(a) of Part A of this Schedule, but having a raw material capacity not in excess of 0.5 of a tonne per hour; or
 - (b) Described in clause 3(b) of Part A of this Schedule, but having a raw material capacity in excess of 250 kg per hour but not in excess of 5 tonnes an hour; or



- (c) Described in clause 3(c) of Part A of this Schedule, but having a raw material capacity not in excess of 2 tonnes an hour]
- [4. Any industrial or trade mineral processes described in clause 4(a) of Part A of this Schedule, but having or requiring—
 - (a) An opencast extraction capacity in excess of 5 tonnes an hour but not in excess of 100 tonnes an hour; or
 - (b) A size reduction and screening capacity in excess of 5 tonnes an hour but not in excess of 200 tonnes an hour; or
 - (c) A storage capacity in excess of 500 tonnes but not in excess of 10,000 tonnes; or
 - (d) A rate of heat release less than 2,000 kW.]
- 5. Any industrial or trade processes for manufacture of flock or for the teasing of textiles or shredding of paper or for cleaning sacks or crushing or separating dags from wool.
- [6. Any industrial or trade process which is not otherwise specified or described in this Part of this Schedule and which involves [[dry]] abrasive blasting.
- [[7. Any industrial or trade process using di-isocyanates at a rate not exceeding 100 kg an hour.]]]
- [8. Any process of wool scouring.
- 9. Any process—
 - (a) Which involves the production of compost from raw materials that contain municipal or domestic refuse and which has a raw materials capacity not exceeding 10 tonnes per day; or
 - (b) Which involves the production of compost (except silage) from raw materials that do not contain municipal or domestic refuse and which has on the premises a volume of compost and raw materials exceeding 100 cubic metres but not exceeding 750 cubic metres.]

PART C - Processes requiring notification to local authorities and subject to license pursuant to bylaws

- 1. Any combustion processes involving fuel burning equipment, including flaring or incineration of trade wastes or refuse, not otherwise specified or described in this Schedule which singly or in combination in any one unit can burn combustible matter having a rate of heat release exceeding [40 kW].



2. Any industrial or trade processes not otherwise specified or described in this Schedule for pneumatic conveying of any air polluting substance specified in the First Schedule to this Act....
3. Any industrial or trade processes described in clause 3 of Part A of this Schedule but having a raw material capacity less than 250 kg an hour.
- 4, 5. *Repealed by clause 5 (2) of S.R. 1982/278.*
6. Any industrial or trade processes not otherwise specified or described in this Schedule which may separately or together discharge to the atmosphere hydrocarbons and related substances in quantity [exceeding 5 kg an hour].
7. Any industrial or trade processes not otherwise specified or described in this Schedule or for which a lower emission limit is not specified in this Schedule but which may discharge to the atmosphere air pollutants specified in the First Schedule to this Act.
- [8. Any process which involves the production of compost (except silage) from raw materials that do not contain municipal or domestic refuse and which has on the premises at any time a volume of compost and raw materials not exceeding 100 cubic metres.
9. Any industrial or trade process which is not otherwise specified or described in this Part of this Schedule and which involves wet abrasive blasting.]

Appendix B Notification Form A

In accordance with Rule 15.2 of the Proposed Regional Air Plan for Manawatu-Wanganui

Use this notification form if you are applying agricultural chemicals to more than one kilometre of public road or railway verge. Notice must be given in local newspapers or by door-to-door advice to occupiers of properties or premises within 50 metres of the area to be sprayed at least one week and not more than one month before application.

- 1. I hereby notify that the following road or railway line will be sprayed:** (also specify the area if possible)

- 2. Spraying will take place on:** (specify the date when spraying will occur)

- 3. The following chemicals will be used:** (specify the brand name and the chemical name to be used)

- 4. The agricultural chemicals will be applied by:** (describe the method by which the chemicals will be applied)

- 5. The following safety precautions will be taken:**

- 6. Further information about the spraying can be obtained from:**

Name (of person notifying) _____

Date (form filled out) _____



Notification Form B

In accordance with Rule 15.3 of the Proposed Regional Air Plan for Manawatu-Wanganui

Use this notification form if you are applying agricultural chemicals to any place not included in 15.2. Notice must be given by the owner or occupier of the property being sprayed to the occupiers (in the first instance) and the owners (in the second instance) of any neighbouring properties within 50 metres of the area to be sprayed either verbally or in writing not less than eight hours, and not more than one month before the proposed commencement of the work. **Unless written permission has been obtained from the neighbouring occupiers or owners stating that notification can be in some other mutually agreed form, or is not required at all.**

1. **I hereby notify that the following property and/or area will be sprayed:** (please be as specific as possible)

2. **Spraying will take place on:** (specify the date and general time when spraying will occur, and in the case of poor weather conditions, any alternative dates and general times for spraying)

3. **The following chemicals will be used:** (specify the brand name and the chemical name to be used)

4. **The agricultural chemicals will be applied by:** (describe the method by which the chemicals will be applied e.g. aerial application by fixed wing aircraft)

5. **The following safety precautions will be taken:**

Name (of person notifying) _____

Date (form filled out) _____



Model Spray Plan

Advisory Notes:

- The following is required as a minimum as part of Rule 15.3.
- This checklist can be either prepared by the owner, occupier, or manager of the property, or the applicator.
- The purpose of this checklist is to provide information to potentially affected parties.
- Provision of this information **does not** imply a right of any party to object to spraying activities occurring legitimately within the subject property boundary.

Date:

Prepared by:

Name	Address (postal/physical)	Phone/Fax Numbers
Property Owner(s)/Occupiers(s)		
Property Manager(s)		
Registered Chemical Applicator(s)		

Neighbours Name ²	Address (postal/physical)	Phone/Fax Numbers	Status Owner/Occupier

² At adjoining property boundary as at (date).



Roads Adjacent to Property Boundary	Roads Used for School Bus Routes

Identification of Area to be sprayed (ie. N/S/E/W ³)	Size of Area to be sprayed (in square metres)	Target to be Sprayed (eg. apples, gorse)

Agrichemical to be used (trade name)	Agrichemical Classification (1)-(5)	Potential Hazard	Year/Season Agrichemical used

³ Of the adjoining properties.



Sensitive Area (description and location)	Measures to be used to avoid contamination of sensitive areas

Factors to be considered before spraying (eg. weather conditions⁴)	Factors that may increase spray hazard potential

⁴ Refer Appendices W, Z, AA, DD of the New Zealand Standard 8409:1995 *Agrichemical User's Code of Practice*. Wellington



GLOSSARY

This Glossary is included to explain Maori words and technical terms in this Plan. Explanations of Maori terms have been taken from the Regional Policy Statement for Manawatu-Wanganui. Definitions in *italics* are taken from the Resource Management Act, 1991.

- abrasive blasting** the cleaning, smoothing, roughening, cutting or removal of part of the surface of any article by the use as an abrasive of a jet of sand, metal, shot or grit or other material propelled by a blast of compressed air or steam or water or by a wheel.
- abrasive blasting enclosure** an enclosure into which people enter to carry out abrasive blasting. It is constructed in such a manner that dust is not emitted into the atmosphere, it is ventilated by a powered extraction system and is fitted with appropriate dust control equipment.
- aerosol** a system of particles consisting of water containing contaminants which may be carried in the atmosphere with particles that have a Volume Median Diameter ranging from 0.05-50 microns.
- agricultural chemical** Any substance, whether inorganic, human-made or naturally occurring, modified or in its original states, that is used in any agriculture, horticulture or related activity, to eradicate, modify or control flora and fauna. For the purposes of this Plan agricultural chemicals do not include animal remedies, fertilisers or pheromones or any substance that does not change the physical, chemical or biological condition of air.
- agricultural chemical wastes** for the purposes of RAP Rule 9 of the Plan, agricultural chemical wastes means waste substances whether in concentrated or in diluted form, intended by the manufacturer, distributor, vendor, or discharger to cause or promote or contribute to or facilitate the control of plant growth (other than primarily as a fertiliser or soil conditioner) such as, but not restricted to, the categories of herbicides, fungicides, algacides, defoliants, or fruit-setting hormones.
- ambient air** means the air outside buildings or structures, and does not in any way refer to indoor air, or to air in the workplace.



- amenity values** *means those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes.*
- chimney** *includes any structure or opening including dilution ducts, designed for venting the airborne products of combustion.*
- coastal marine area** *that area of the foreshore and seabed-*
(a) Of which the seaward boundary is the outer limits of the territorial sea: (12 miles or almost 20 kilometres)
(b) Of which the landward boundary is the line of mean high water springs, except where that line crosses a river, the landward boundary at that point shall be whichever is the lesser of-
(i) One kilometre upstream from the mouth of the river; or
(ii) The point upstream that is calculated by multiplying the width of the river mouth by 5.
- commercial contractor** *any person or organisation who by agreement with the owner, occupier or manager of any land, applies, or causes to be applied, any agricultural chemical for hire or reward. It does not include an employee, owner, occupier or manager.*
- contaminant** *includes any substance (including gases, liquids, solids, and micro-organisms) or energy (excluding noise), or heat, that either by itself or in combination with the same, similar, or other substances, energy, or heat -*
(a) When discharged into water, changes or is likely to change the physical, chemical or biological condition of water; or
(b) When discharged onto or into land or into air, changes or is likely to change the physical, chemical, or biological condition of the land or air onto or into which it is discharged.
- controlled activity** *means an activity which -*
(a) Is provided for, as a controlled activity, by a rule in a plan or proposed plan; and
(b) Complies with standards and terms specified in a plan or proposed plan for such activities; and
(c) Is assessed according to matters the consent authority has reserved control over in the plan or proposed plan; and
(d) Is allowed only if a resource consent is obtained in respect of that activity.

A resource consent is required for these activities and the Plan sets out the information required with the application. The Council must grant applications for controlled activities if the activity complies with standards and terms specified in the Plan. The assessment of environmental effects with applications for controlled activities is only required to address those matters specified in the Plan over which the Council has retained control. Conditions can be imposed on the consent in accordance with terms and conditions specified in the Plan. Applications will usually be non-notified, but in certain circumstances will be notified.

discharge

includes emit, deposit, and allow to escape.

discharge permit

a consent to do something (other than in the coastal marine area) that otherwise would contravene section 15 of the Resource Management Act.

discretionary activity

means an activity -

(a) Which is provided for, as a discretionary activity, by a rule in a plan or proposed plan; and

(b) Which is allowed only if a resource consent is obtained in respect of that activity; and

(c) Which may have standards and terms specified in a plan or proposed plan; and

(d) In respect of which the consent authority may restrict the exercise of its discretion to those matters specified in a plan or proposed plan.

A resource consent is required for these activities and the Plan sets out the information required with the application. The Council has the discretion to grant the consent and impose conditions, or decline the application. The application will be assessed with regard to the policies in this Plan and in the Regional Policy Statement, and in accordance with terms and standards specified in this Plan and the provisions in the Act. Applications may be notified, or in certain circumstances, non-notified.



- dwelling house** *means any building, whether permanent or temporary, that is occupied, in whole or in part, as a residence; and includes any structure or outdoor living area that is accessory to, and used wholly or principally for the purposes of, the residence; but does not include the land upon which the residence is sited.*
- effect** *... unless the context otherwise requires, the term "effect" includes:*
- (a) Any positive or adverse effect; and*
 - (b) Any temporary or permanent effect; and*
 - (c) Any past, present, or future effect; and*
 - (d) Any cumulative effect which arises over time or in combination with other effects - regardless of the scale, intensity, duration, or frequency of the effect, and also includes:*
 - (e) Any potential effect of high probability; and*
 - (f) Any potential effect of low probability which has a high potential impact.*
- efflux** the velocity of the gases leaving a chimney, pipe or other exhaust.
- environment** *includes:*
- (a) Ecosystems and their constituent parts, including people and communities; and*
 - (b) All natural and physical resources; and*
 - (c) Amenity values; and*
 - (d) The social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) of this definition or which are affected by those matters.*
- equivalent qualification** for the purposes of this Plan in relation to Rules 14 and 15 means a qualification determined to be equivalent by the Council.
- factory farm** any farming practice that includes the keeping of animals or poultry (where greater than 12 birds are kept) predominantly within buildings or fenced outdoors areas where the stocking density precludes the maintenance of ground-cover.
- flue** has the same meaning as chimney.
- fuel burning equipment** any fireplace, grate, stove, incinerator, boiler, furnace, gas turbine, or internal or external combustion engine.

- hapu** a subunit of a Maori social, political and economic structure comprised of whanau (extended families) all recognising descent from a common ancestor.
- heritage resources** includes any place or areas of special historic, cultural, archaeological, architectural, scientific or amenity value.
- industrial or trade premises** *means*
 (a) Any premises used for any industrial or trade purposes; or
 (b) Any premises used for the storage, transfer, treatment, or disposal of waste materials or for other waste-management purposes, or used for composting organic materials; or
 (c) Any other premises from which a contaminant is discharged in connection with any industrial or trade process-but does not include any production land.
 [NB The words “and includes any factory farm” were omitted before “but does not include any production land” by S2(3) of the Resource Management Amendment Act 1997, which came into force on 17 December 1997].
- industrial or trade process** *includes every part of a process from the receipt of raw material to the dispatch or use in another process or disposal of any product or waste material, and any intervening storage of the raw material, partly processed matter, or product.*
- intrinsic values** *in relation to ecosystems, means those aspects of ecosystems and their constituent parts which have value in their own right including-*
 (a) *their biological and genetic diversity; and*
 (b) *the essential characteristics that determine an ecosystem's integrity, form, functioning, and resilience.*
- issue** an issue is:
 (a) a matter of interest or concern to the Region’s community regarding activities affecting some aspect of natural and physical resources in the Region; or
 (b) a matter required to be addressed in the Plan by the Regional Policy Statement or the Resource Management Act.
- iwi** a political unit of Maori social and economic organisation comprised of many sub groupings (hapu). A purpose oriented confederation based on genealogical ties.

iwi authority	<i>the authority which represents an iwi and which is recognised by that iwi as having authority to do so.</i>
kilowatt	One thousand watts. A watt is a unit of power equivalent to one joule per second.
local authority	<i>means a regional council or a territorial authority.</i>
megawatt	One million watts.
MWRC	Manawatu-Wanganui Regional Council.
mana whenua	customary authority exercised by an iwi or hapu in an identified area.
mauri	the essence of all being inherent in all things, both animate and inanimate. Also spelt as mouri .
method	the practical action by which a policy is implemented. It is what needs to be done to put a policy into effect and includes rules, procedures or programmes.
mist spraying	the application of agricultural chemicals in spray droplets that are less than 100 microns in diameter.
mobile	any item of equipment or machinery that is designed to be used in a variety of locations.
NTP	the scientific basis for correcting the volume of gases or other physical properties of a gas to a standard temperature of 0 degrees and 1 standard atmosphere pressure.
natural character of the environment	qualities of the environment that give it recognisable character. These qualities may be ecological, physical, spiritual, cultural or aesthetic in nature. They include modified and managed environs.
non-complying activity	<i>Non-complying activity means an activity which -</i> <i>(a) Is provided for, as a non-complying activity, by a rule in a plan or proposed plan; or</i> <i>(b) Contravenes a rule in a plan or proposed plan;</i> <i>and is allowed only if a resource consent is obtained in respect of the activity.</i>

This category includes activities that the Plan states are non-complying or that contravene a rule in a plan. Applications for resource consents for non-complying activities can be made and assessed on their individual merit, in accordance with Section 105 of the Act.

objective	a statement of what is to be achieved. It is a desired result, end state, situation or condition aimed for.
odour	means the human perception of one or more chemical compounds in the air we breathe and for the purposes of this Plan includes the odorous contaminants that create the odour.
open burning	means burning in the open and burning in containers such as drums if the container is not designed to control the combustion process.
particle board	means any form of reconstituted wood product involving the use of a chemical agent to bond the wood particles together. Includes, but is not restricted to, products such as hardboard, fibreboard, medium density fibreboard, and does not include cardboard or like products.
particulate matter	includes smoke, deposited particulate, suspended particulate, and visibility reducing particulate. Particles range in size from 100 micro metres down to aggregations of molecules.
permitted activity	<i>an activity that is allowed by a plan without a resource consent if it complies in all respects with any conditions (including any conditions in relation to any matter described in section 108 or section 220) specified in the plan.</i> No resource consent is required to undertake these activities provided they are undertaken in a manner consistent with any conditions set out in the Plan.
policy	a statement that guides or directs decision-making. It contains a general course of action which helps achieve the desired result. It is what needs to be done to achieve an objective.
production land	<i>(a) Means any land and auxiliary buildings used for the production (but not processing) of primary products (including agricultural, pastoral, horticultural, and forestry products):</i>



(b) Does not include land or auxiliary buildings used or associated with prospecting, exploration, or mining for minerals or used for factory farming.

and “production” has a corresponding meaning.

prohibited activity *an activity which a plan expressly prohibits and describes as an activity for which no resource consent shall be granted; and includes any activity prohibited by section 105 (2)(b) of the Historic Places Act 1993.*

public land means land to which the public has free access at the time an activity is undertaken in accordance with a Rule in this Plan.

RPS Regional Policy Statement for Manawatu-Wanganui.

resource consent a consent for an activity that would otherwise contravene the Resource Management Act. A resource consent for an activity that would breach Section 15 of the Act is called a “discharge permit”.

rule *A rule may-*
(a) Apply throughout the region or a part of the region:
(b) Make different provision for-
(i) Different parts of the region; or
(ii) Different classes of effects arising from an activity:
(c) Apply all the time or for stated periods or seasons:
(d) Be specific or general in its application:
(e) Require a resource consent to be obtained for any activity not specifically referred to in the plan. (See Section 68 (5) of the Act).

sensitive receiving environments any feature identified as being of regional significance in the Regional Policy Statement for Manawatu-Wanganui and any dwelling houses, places of public assembly, water bodies used for public water supply, wetlands, public roads, school buildings, sensitive crops or farming systems (e.g. organic farms).

spot spraying the application of agricultural chemicals targeted at one or more discrete areas not exceeding two square metres.

spray drift means the movement of airborne agricultural chemicals as droplets, vapour or solid particles away from the target area.

standards	numerical level or narrative statement that is enforceable by statutory power.
sustainable management	<p><i>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 well being for the their health and safety while-</i></p> <p>(a) <i>Sustaining the potential for natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and</i></p> <p>(b) <i>Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and</i></p> <p>(c) <i>Avoiding, remedying, or mitigating any adverse effects of activities on the environment.</i></p>
tangata whenua	people of the land; <i>in relation to a particular area, means the iwi, or hapu, which holds mana whenua over that area.</i>
taonga	all things prized or treasured, both tangible and intangible.
territorial authority	a district council or a city council (as defined by the Local Government Act, 1974).
treated timber	timber treated with preservatives, including boron compounds (except TCMTB compounds), copper-chrome-arsenic, or creosote, but not including timber treated with anti-sapstain compounds only.
waahi tapu	sites, areas or localities associated with tapu.
waste oils	any oil that has been used in machinery but not including oil that has been re-refined to be re-sold.