Regional Air Quality Management Plan for the Wellington Region

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Wellington Regional Council

Wakefield Street, Wellington
PO Box 11-646, Wellington
Telephone 0-4-384 5708

Chapel Street, Masterton
PO Box 41, Masterton
Telephone 0-6-378 2484

www.wrc.govt.nz

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Photography by Robin Blake

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Resource Management Act 1991

Approval of the Air Quality Management Plan for the Wellington Region

The Wellington Regional Council hereby certifies that it has approved the Air Quality Management Plan for the Wellington Region by resolution on 13 April 2000.

The Air Quality Management Plan for the Wellington Region will become operative on

the 8th day of May 2000.

The common seal of the)
Wellington Regional Council)
was affixed in the presence of)
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Stuart Macaskill)
Chairperson)
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Howard Stone)
General Manager)

Chairperson's Foreword

I am very pleased to present the Regional Air Quality Management Plan. This is one of a series of regional plans for the Wellington Region, prepared by our Council under the Resource Management Act 1991.

This Plan has been prepared to help promote sustainable management of discharges to air. Many industrial and trade processes, as well as some other activities, result in contaminants being discharged to air. Fresh, unpolluted air, is essential for our health and the health of ecosystems. It is important to manage discharges to air to ensure that pollutant levels in the air around us do not exceed air quality guidelines for protecting health.

As with all of our regional plans, this Plan generally allows discharges to air, subject to controlling adverse effects on the environment. For domestic activities that result in discharges to air (e.g., open fires), the Council will promote sustainable management through non-regulatory methods like providing information, education, and advocacy about appropriate practices.

I would like to thank all those individuals and groups who contributed to the preparation of this Plan. We value your input. The public process used for developing regional plans has helped shape this document so that it reflects community expectations to use natural resources while avoiding, remedying, or mitigating any adverse effects on the environment.

STUART MACASKILL
Chairperson

Table of Contents

1. Introduction

1.1 Title

This Plan shall be known as the Regional Air Quality Management Plan for the Wellington Region. It shall be referred to as “the Plan” in this plan.

1.2 Area Covered by the Plan

The Plan applies throughout the Wellington Region, on the landward side of the boundary of the Coastal Marine Area. Air quality management in the Coastal Marine Area is covered by the Regional Coastal Plan for the Wellington Region.

The Wellington Region (“the Region”) is the area covered by the Wellington Regional Council (“the Council”), and is shown on map SO 35951 (available at the Council). Figure 1 (p.2) shows a map of the Region for illustrative purposes.

1.3 Scope of the Plan

In its rules, the Plan addresses Resource Management Act 1991 (“the Act”) subsections 15(1)(c) and 15(2) as they relate to discharges to air. The Plan includes rules for consents that are required in terms of these subsections of the Act. The Plan does not require resource consents for discharges that are made in terms of the other subsections of section 15. Discharges in terms of other subsections of section 15 are addressed in either the Regional Plan for Discharges to Land, or the Regional Freshwater Plan.

While the objectives, policies and methods of the Plan address air quality problems related to emissions from mobile transport sources, these are non-regulatory approaches. The rules in the Plan do not apply to discharges from mobile transport sources, whether or not the mobile transport source is on trade or industrial premises, and no resource consents are required for such discharges.

There is potential overlap between territorial authorities and the Council in dealing with some air quality issues such as odour. The territorial authorities can include the consideration of effects on air quality associated with land uses (e.g., land uses which involve odour generation) when establishing plan provisions (i.e., the various zones for activities), and as a factor to consider when issuing a land use resource consent (i.e., the degree of compatibility with surrounding land uses). Territorial authorities also retain a role under the Health Act 1956 for nuisance. The regional role relates to section 15 of the Act. The Council has the responsibility for dealing with the effects of air discharges, including odour issues, particularly from trade and industrial premises, and will retain enforcement responsibilities for such discharges. The approach taken is explained further in section 9.1.3 "Integration of the Management of Land Use and Air Quality".

1.4 Structure of the Plan

The Plan is divided into nine sections. Section 1 contains the Introduction. Section 2 contains a description of the resource management issues related to the discharge of contaminants to air in the Wellington Region. These issues are grouped as "information and data", "issues of concern to tangata whenua", "issues related to the discharge of contaminants from particular sources", and "global air quality issues".

Section 3 contains the Interpretation. This gives the Plan's interpretation of technical words, Maori words, and words specifically defined for the purpose of applying rules in the Plan. This section is printed on sand coloured paper for easy reference.

Section 4 contains the objectives and policies for the discharge of contaminants to air in the Wellington Region. The policies are grouped broadly as "general ambient air quality management", "discharges to air from domestic activities", "discharges to air from burn-offs", "discharges to air from the application of agrichemicals", "discharges to air from mobile transport sources", and "global air quality". This section is printed on sand coloured paper for easy reference.

Section 5, which is printed on tinsel coloured paper for easy reference, contains a User Guide to the rules in the Plan, and the regional rules for the discharge of contaminants to air. The rules apply throughout the Region.

Methods of policy implementation (other than the rules) are in section 6. Section 7 details the principal reasons for the objectives, policy, methods (other than rules) and rules. The environmental results anticipated by implementing the Plan are in section 8, and the procedures for implementing and reviewing the Plan are in section 9.

1.5 Supporting Documents

Two supporting documents were released with the Proposed Plan in June, 1995. These were the Background Report and the User Guide. The Background Report set out the principal reasons why the Council adopted the approaches in the Proposed Plan in preference to alternative approaches, and the cost and benefits of the adopted and alternative approaches. The User Guide provided information about the statutory basis for the Proposed Plan, the effect the Plan will have once it is notified, and how to use the Plan. This guide is now dated, because the Plan has been change through the submission and appeal process.

An Integrated User Guide to the Regional Plans will be available once all of the regional plans are operative. This will help people to use the Council's regional plans including the Regional Soil Plan. The Integrated User Guide will provide

information about how each plan applies to the use and development of natural and physical resources in the Region. For more information about the Integrated User Guide, contact the Resource Policy Department at the Wellington office of the Council.

2. Issues

2.1 Information and Data

2.1.1 **Lack of adequate data and information on ambient air quality, contaminants in discharges and climatic effects in the Wellington Region.**

Ambient air quality

Ambient air quality is the general quality of the air that surrounds us. Ambient air quality reflects the cumulative effects of all activities, both anthropogenic (from human activities) and natural.

There is little data on air quality in the Wellington Region. Information about ambient air quality is almost totally lacking and information about emissions from specific sources is patchy and dated. This makes it difficult to confirm the perceived high quality of the air in the Region, or to detect problems, develop policies, or justify methods to deal with these perceived problems.

Existing data in the Region is limited to:

(1) a long-term study undertaken in the Region as part of the national lead-in-air programme (monitoring stations in Naenae and Newtown);

(2) a short-term study of wintertime dispersion in Upper Hutt in 1977, 1978 and 1979 (O'Sullivan, 1977);

(3) a short-term study carried out as part of the Kiwi Point quarry/Raroa monitoring survey in 1978/79;

(4) some short-term monitoring in the early 1980s of motor vehicle effects in the Mt. Victoria tunnel;

(5) short-term studies of wintertime smoke levels in Masterton in 1993, 1994 and 1995; and

(6) a short-term study of ambient air over Masterton as part of the NIWA national study of organochlorides in 1996 and 1997.

In addition, the National Institute of Water and Atmospheric Research (NIWA) runs a clean air sampling station at Baring Head, which can provide an indication of background air quality in the Region.

The relative lack of information means that, initially at least, it is not easy to take full advantage of the effects-based air quality management regime set out in the Act.

Contaminants in discharges

Information on the effects of the discharge of contaminants from various sources is often poor. First, there is no comprehensive discharge inventory for the Region and secondly, the effects, especially adverse effects, from many discharges are often poorly understood in a holistic sense. There is often very good information about certain aspects of discharges, such as that documented in the "Workplace Exposure Standards", and in codes of practice or regulation. However, in many other instances the effects or potential adverse effects of other elements of a discharge remain relatively unknown.

Although research into the adverse effects of discharges to air is not the direct responsibility of the Council, qualifying and understanding the full effect of discharges to air will allow more effects-based control measures to be applied to air quality management.

Weather, climate and topography

The Wellington Region's climatic conditions and weather processes are different to those of New Zealand as a whole. The Region's climate and weather is highly variable. Because of the climate and topography of the Region, air quality is generally very good. It can be poor in some situations because of localised variations in topography, climate and discharges to air. A better understanding of localised climatic factors and general weather processes in the Region is essential for the better management of air quality.

There is good information on climatic factors, such as wind and rain. Similarly weather processes, including large-scale, medium-scale and small-scale weather processes, are generally well recognised in the Region, though the effects on air quality need further analysis. However, while the influence of these climatic factors and weather processes on air quality is generally understood, the localised effects are poorly documented.

Although monitoring these factors is not a direct responsibility of regional councils, the interpretation of this information with regard to its implications for air quality management is an issue. Such interpretation is currently lacking.

These issues are addressed by Objectives 4.1.1 and 4.1.2, Policies 4.2.1-4.2.3 and Methods 6.1.1-6.1.6.

2.2 Tangata Whenua

2.2.1 Air is a taonga and needs to be safeguarded

To tangata whenua, air is a taonga and to despoil or diminish the resource is an act of deep offensiveness, a breach of the law of stewardship or kaitiakitanga. Pollution

of airspace is as abhorrent as putting sewage into water. Particular emissions may be culturally offensive, either as a result of the type of emission or where the emission occurs. For instance, some odours may be particularly offensive if they affect the values of a waahi tapu or a marae.

Poor air quality, and the consequent reduction in visibility, has the potential to deny tangata whenua access to those environmental phenomena, such as the moon, stars and rainbows, often referred to in Maori mythology and navigation. The stars are particularly important. They represent the generations that have passed into the night. The movement of the stars is said to be ancestrally motivated, giving guidance to contemporary generations. Movements of the moon and the lunar calendar help tangata whenua determine the time of year for sowing and harvesting, as well as other aspects of kaitiakitanga.

In general terms, the concerns of tangata whenua for the maintenance of good air quality appear to reflect the wider community concern that the Region's ambient air quality be protected and in some cases enhanced. The Council is bound by the provisions of the Act to act in partnership with tangata whenua and have regard to values, issues and concerns of relevance to them. The Council has signed a protocol with iwi in the Region, and is establishing mechanisms to ensure greater consultation with regard to the management of natural and physical resources. Also, the need for consultation with iwi is highlighted in objectives, policies and methods in the Regional Policy Statement for the Wellington Region. These initiatives clearly detail the need for the Council to liaise with iwi about resource management issues. As a result, liaison with iwi over air quality issues has not been addressed as a specific issue in this Plan.

Issues of concern to tangata whenua are addressed through the general provisions of this Plan.

2.3 Discharge of Contaminants from Particular Sources

2.3.1 **Discharges to air from industrial or trade premises cause, or have the potential to cause, significant adverse effects on air quality.**

By far the majority of air quality complaints are the result of discharges from industrial or trade premises. There is often public anxiety, not only over emissions from the day-to-day operation of industry, but also over emergency situations such as industrial fires, spillages and uncontrolled process releases.

Some of the larger industrial emissions in the Region have the potential to cause significant adverse effects on air quality. In particular, emissions from manufacturing premises and processing works, fish processing plants, and meat works require effective control. Discharges from fuel burning equipment, metal production processing, and the drying and heating of minerals have been identified as having the potential to produce significant adverse localised effects. The effects of discharges from industrial and trade premises can vary according to the nature of the manufacturing process, emission controls, locality, local topography and

climatic conditions.

Some processes have been identified as having adverse effects resulting from just one particular contaminant type, such as the discharge of dust from mineral extraction and abrasive blasting operations. Similarly, some processes give rise to offensive, objectionable or noxious odours, such as some sewage conveyance and treatment processes and some on-farm processes and factory farming operations.

Landfills also contribute to air quality problems in the Region. The open burning of wastes occurs at some landfills, particularly in the Wairarapa, and has been a cause of complaint to the Council. This practice is extremely undesirable because of the variety of potentially toxic substances which are burned. Incomplete combustion of materials can occur, leading to dense clouds of smoke and odour. The discharge of dust and landfill gases from landfills is also a common concern.

A further issue in relation to industrial emissions is the need for the integrated management of the contaminants which arise from a particular activity, whether those contaminants are discharged into or onto land, water, or air. For example, an industry (such as a waste disposal facility) may wish to reduce the overall environmental impact of its operation by incinerating some of its wastes, thereby reducing the effects of any discharge of contaminants to land or water. As a result, however, the effect of the discharge to air is likely to increase, and the impact of the activity is simply shifted to a different part of the environment.

These issues are addressed through Objectives 4.1.1 and 4.1.2, Policies 4.2.4-4.2.16, Methods 6.1.9-6.1.12, and a significant number of the rules. The Regional Freshwater Plan and the Regional Plan for Discharges to Land are also relevant.

2.3.2 **Discharges to air from domestic sources cause, or have the potential to cause, significant adverse effects on air quality.**

Domestic sources of emissions are sometimes called "area sources" because, while individual discharges may not have any significant environmental effect, their cumulative effect may be to degrade the ambient air quality.

Domestic emissions can cause a significant deterioration in air quality in some local areas of the Wellington Region. Domestic fires are a common source of complaint to territorial authorities in the Region. The main types of discharge are:

- discharges from domestic heating appliances; and
- discharges from backyard fires (either in open fires or in domestic incinerators).

Discharges from domestic heating appliances and backyard fires can cause smoke emissions. The main effects of these emissions are:

- human health effects (the emissions have a high proportion of small particles (PM_{10}) which can enter the respiratory system); and
- effects on amenity values (nuisance, odour and effects on visibility).

Although wood and gas domestic heating appliances are popular in the Region, little coal is burnt. The main contaminant from domestic heating is therefore smoke, resulting in a decrease in visibility, and possible human health effects from the emission of small particles. Another cause for concern, particularly with regard to domestic heating appliances, is the burning of treated timber and demolition material with painted surfaces (especially where the paint is lead-based). This results in a number of toxic contaminants being discharged to air.

The main contaminants from backyard fires are smoke and fly-ash, with the main effects being odour, visual pollution and the risk of windblown embers starting bush or scrub fires. Problems associated with discharges to air from domestic heating appliances and backyard fires can be exacerbated by:

- the type of fuel used or variety of materials burnt (e.g., in the Wairarapa, where there is no natural gas reticulation, up to 80 percent of homes have solid fuel appliances);
- the Region's strong winds, which can spread smoke, embers or ashes;
- the local topography in the Region (particularly in valleys), which can inhibit dispersion and increase nuisance. Temperature inversions formed over flat open country and valley floors and basins can also be a problem;
- population density, which can contribute to the cumulative discharge and effect of emissions; and
- the combustion efficiency of heating appliances. The efficiency of combustion refers to the proportion of fuel completely oxidised to carbon dioxide and water. Incomplete combustion means that the emission will be made up of other combustion products like smoke, aldehydes, phenols and carbon monoxide. Unfortunately, the best open fireplaces are only 10 percent efficient. Modern coal, oil or wood burning appliances are usually about 50 percent efficient.

There is some concern that backyard burning may be increasing as charges for the disposal of domestic wastes are introduced across the Region (Bird and Gazely, 1992, p.18).

A particular problem in the Region is the nuisance value of domestic heating appliances and backyard fires. This is especially so in the hilly urban parts of the Region where smoke can have significant effects on neighbouring properties. The areas of the Region which are most affected by discharges from domestic heating appliances and backyard fires are the relatively densely populated areas which are also subject to inversions. This includes some towns in the Wairarapa (especially Masterton), the Hutt Valley, Tawa and Karori. The topography of Wellington City

means that there are often localised nuisance effects from domestic heating. It is probable that the effects of emissions from this source outweigh all other sources in terms of the impact on air quality in the Wairarapa (Bird and Gazely, 1992).

These issues are addressed through Objectives 4.1.1 and 4.1.2, Policies 4.2.17 and 4.2.18, Methods 6.2.1 and 6.2.2 and Rules 18 and 19 in particular.

2.3.3 **Discharges to air from mobile sources, particularly mobile transport sources, cause, or have the potential to cause, significant adverse effects on air quality.**

Mobile sources which discharge contaminants to air include mobile transport sources and other sources such as abrasive blasting and spray painting. Mobile transport sources fulfil an important social and economic function but are considered a significant source of air pollution in the Region, particularly in the Wellington urban area (WRC, 1993b). Motor vehicles, such as cars, trucks and buses, are the most significant source of air pollution from mobile sources, while discharges from aircraft can have significant localised effects in and around the Wellington International Airport. In 1991 there were 0.478 vehicles per person in the Wellington Region. This is projected to rise to 0.731 vehicles per person by the year 2016.

The transport sector is responsible for about 75 percent of global carbon monoxide emissions, 25 percent of carbon dioxide, almost 50 percent of oxides of nitrogen emissions, about 40 percent of hydrocarbon emissions in urban areas, and at least 50 percent of atmospheric lead (MFE, 1992). Motor vehicles also emit particulates and oxides of sulphur. These emissions can have localised effects (e.g., concentrations of emissions near busy or congested roads or in tunnels), more widespread effects (e.g., airborne particulates from vehicles can enter waterways or other ecosystems), and effects on the global air resource through the production of carbon dioxide. The latter is a major greenhouse gas.

Factors which contribute to the effects of motor vehicles on air quality include:

- the type of fuel used;
- the efficiency of the engine (older vehicles can be a particular problem);
- traffic levels and types of vehicles on the road (pollution from public passenger transport and freight vehicles differs from private motor vehicles because the main fuel used is diesel. A Christchurch survey found that although smoke emissions from heavy diesel vehicles are the most visible in city streets and cause the most public comment, they are estimated to account for only 7 percent of the total smoke emissions from vehicles(CRC, 1993)); and
- driving style and congestion (stop-start city driving leads to inefficient combustion and more undesirable emissions).

Discharges to air from aircraft using Wellington International Airport have been identified as an area of possible concern to people living and working around the airport. Sources of emissions at airports generally relate to the approach, landing, taxiing, take-off and initial climb of aircraft. Discharges from aircraft include nitrogen oxides, carbon monoxide, unburned hydrocarbons and smoke. Sulphur dioxide is not produced in any significant quantities by aircraft engines (Rochat, 1993, p.32).

Pungent kerosene fumes are most evident in the summer on still days. Fumes are of particular concern to people living opposite the aircraft turning area at the northern end of the runway. The manoeuvring of large jet aircraft onto the runway has led to complaints about the effects of "wash" from the aircraft.

Transport of freight and people by rail is generally regarded as more environmentally friendly than transport by trucks and buses. However, similar to aircraft, emissions can be significant in localised areas.

Other mobile sources involving the discharge of contaminants to air include facilities such as asphalt plants, metal screening plants, and more highly mobile activities such as abrasive blasting and spray painting.

The Council has little substantive information on the contribution of these mobile sources, either to local air pollution, or to the ambient air quality of the Region as a whole.

These issues are addressed in Objectives 4.1.1 and 4.1.2, Policies 4.2.22 and 4.2.23, Methods 6.5.1 and 6.5.2, and Rule 22 in particular.

2.3.4 **The spray application of agrichemicals has the potential to cause significant adverse effects resulting from spray drift.**

Another air quality issue of public concern is the effect of spray drift from the application of agricultural chemicals. The non-target adverse effects of agrichemicals are not an issue in rural parts of the Region only. There is also considerable concern about the effects of spray drift in urban and residential areas.

Farmers raised the health and safety aspects of spraying chemicals as an issue in the Environmental Attitudes Survey. There is also public concern about the aerial application of agrichemicals (WRC, 1993a and 1994). Spray drift from the application of chemicals used in agriculture, forest management, and for the control of weeds on roadsides and in public areas, can affect neighbouring properties and vulnerable habitats.

In spite of these concerns, there has been little monitoring of the adverse effects of spray drift in the Region. Spray drift is often difficult to measure directly, and its potential effects are difficult to quantify, as many agrichemicals break down rapidly

on application. Its most common directly measurable effect is damage to non-target vegetation. This can be a particular problem with aerial spraying.

Factors influencing the level of spray drift include:

- meteorological conditions. The period of greatest agrichemical use is November through to January, which is also the period subject to the most frequent and strongest winds. Most agrichemicals have a relatively narrow "window of application" that precludes waiting for perfect weather;
- the nature of surrounding plants. The height and density of surrounding vegetation can influence whether spray will drift onto neighbouring properties; and
- the method of application. In most orchards, agrichemicals are applied by an air blast sprayer that directs the spray upwards, resulting in considerable potential for drift beyond the boundary of the property. Arable crops are sprayed using a boom applicator that directs the spray downwards, causing less drift. Aerial application, and helicopter application in particular, results in greater spray drift due to elevation, atmospheric turbulence and lack of precise control.

Most agricultural activities, such as horticulture, pastoral or arable farming, as well as forestry, apply agrichemicals, usually by spray application. There is good evidence that spray drift from herbicides can lead to crop losses on adjacent areas of land, and adversely affect aquatic ecosystems, but the wider effects on human health are less clear. If adjacent land is sensitive in any way (e.g., residential development, sensitive ecosystems or land used for organic farming) other conflicts can arise. Organic farming is on the increase in the Region as the demand for organic produce increases. We can therefore expect more conflicts of this type.

Some territorial authorities, particularly in the Wairarapa, have reported difficulties in resolving conflicts between land uses involving the use of agricultural chemicals and adjacent properties which require or desire an environment free from their effects. There is also concern about spraying chemicals to control weeds in urban areas and a concern about the spraying of herbicides (including plant growth regulators) in close proximity to orchards and sensitive crops.

However, the issue of adverse effects from the application of agrichemicals must be tempered by the fact that many industries are adopting rigorous self-regulation procedures. Industries are adopting codes of practice (e.g., NZ Agrichemical Users' Code of Practice (NZS 8409:199**[**9**]**) and the NZ Forestry Code of Practice (LIRO, 1993)) and certifying their good practice through the Agrichemical Education Trust's GROWSAFE programme.

These issues are addressed in Objectives 4.1.1 and 4.1.2, Policies 4.2.20 and 4.2.21, Methods 6.4.1–6.4.6 and Rules 1-2.

The date in square brackets was substituted for the original date by Plan Change 1 to the Regional Air Quality Management Plan 2003

2.3.5 **The actual or potential adverse effects of odour.**

Odour is a generic term that relates to the effect that a contaminant or group of contaminants has on the olfactory nerves (i.e., our sense of smell). Odour is a high profile air quality issue in the Wellington Region. Over 90 percent of air pollution complaints received by the Council relate to odour. Fish processing, meatworks and rendering plants, as well as other industrial processes, are the major sources of complaint, particularly in the western part of the Region.

On the basis of the Council's complaint files, odour appears to be less of an issue in Wairarapa, possibly because it has fewer industrial sources of odour and because agricultural odours are perceived to be the result of typical (and acceptable) rural activities. However, odour is a common problem with some rural waste disposal practices (e.g., the disposal of piggery effluent).

The main effects of odour are nuisance effects and effects on human health. For example, ongoing exposure to an offensive odour can detrimentally affect the mental and social health of people subjected to the odour and can be a predisposing factor for injury or physical illness.

Odour, possibly more than any other contaminant, directly affects people's enjoyment of a particular location. Odorous contaminants can adversely affect amenity values. This can occur when a person or group feels that they are experiencing a loss of amenity which exceeds a level that they could reasonably be expected to tolerate.

The effects of odorous contaminants on individuals and communities vary enormously because of the different responses of people to odour. Consequently, it is extremely difficult to assess odour objectively. There is no standard test to measure its effects. The interpretation of test results is difficult as individual responses are highly subjective. The topography of the Region also means that there can be unusual localised effects (e.g., in valleys), and normal dispersion patterns can be distorted.

These issues are addressed in Objectives 4.1.1 and 4.1.2, Policies 4.2.7 and 4.2.14, and in the Rules.

2.3.6 **The actual or potential adverse effects from the discharge of dust, smoke and other particulates.**

The natural background levels of dust and other particulates vary throughout the urban and rural parts of the Region. The presence of particulates can also be

increased by human activities.

The main sources of complaint with respect to dust emissions are mining (quarrying), land clearance and subdivision. Dust is the most common cause of air quality complaints to the Wairarapa Division of the Council, particularly in relation to trucking activities and gravel crushing. Dust can also be an issue in relation to the storage, transport and application of bulk products. These activities, and in particular transfer operations at bulk stores, can have nuisance effects on nearby residential areas or other sensitive places. The emission of dust is therefore closely related to land uses in the Region. The main effects of dust include damage (e.g., to machinery) and human health effects, such as asbestosis and silicosis.

Complaints about smoke usually relate to domestic fires and the use of fire for land clearance, both in rural areas and in urban areas. A particular problem in the Region is the use of burning to remove cleared vegetation from subdivision developments adjacent to existing residential areas.

Agricultural and forestry burn-off (e.g., to clear crop stubble) is generally accepted as part of New Zealand's agricultural heritage. However, it produces emissions which can reduce visibility and cause nuisance (principally through smoke and odour) to nearby communities. The most obvious contaminant is smoke, but carbon dioxide, carbon monoxide, nitrogen oxides, particulates and odour may also be discharged. Provided it is well managed, burn-off may only have a minor adverse effect.

The presence of smoke and other particulates in the air can affect visibility, which is an important amenity value in the Wellington Region. Residents and visitors value their views of the Region's mountains, hills, coastline, the South Island, and other natural features.

These issues are addressed in Objectives 4.1.1 and 4.1.2, Policies 4.2.4-4.2.16, and in the Rules.

2.4 Global Air Quality

2.4.1 **The actual or potential adverse effects of the discharge of contaminants on global air quality.**

The Region, and to a large extent New Zealand as a whole, has been fortunate to avoid some of the major transboundary air pollution problems that have become apparent in the northern hemisphere (e.g., acid rain). However, global air quality is an issue in the Region because activities carried out here have an effect on global air quality. Changes in global air quality may also have effects on the Region. The two issues of particular concern are:

- the depletion of stratospheric ozone by halogenated hydrocarbons, in particular CFCs and halons. This increases ultraviolet radiation, which is potentially harmful to living tissues and to human health. It contributes to skin cancers, eye damage, and DNA damage in humans and can also affect plant growth, animal health and marine ecosystems; and
- the relatively high per-capita rate of discharge by New Zealand, and by implication the Wellington Region, of greenhouse gases which contribute to climate change. The effects of climate change which are of concern in the Region include possible changes in weather patterns (such as increased storminess), the effects on coastal communities of possible rises in sea level, and effects on horticultural production.

Given central government's primary responsibility for negotiating and implementing national responses to global air quality problems, a further issue is the need to determine an appropriate role for regional government. In particular, there is a need to ensure that any regulatory responses proposed at a regional level are able to be justified in terms of the effects of activities on the environment.

These issues are addressed in Objectives 4.1.1 and 4.1.2, Policies 4.2.24 and 4.2.25 and Methods 6.6.1-6.6.5 in particular.

3. Interpretation

Where available the sources of the definitions are included in brackets.

Acid rain	deposition (in rain) of acids and acid forming compounds on the surface of the earth. These compounds arise from emissions of sulphur dioxide and nitric oxide, mainly from industry and vehicles (Regional Policy Statement).
Act	The Resource Management Act 1991, including any amendments, Orders in Council or regulations that may currently be in force.
Agrichemical	any substance, whether inorganic or organic, manufactured or naturally occurring, modified or in its original state, that is used in any agriculture, horticulture, forestry, management of public amenity areas, or related activity, to eradicate, or control flora or fauna. Fertilisers are explicitly excluded from this definition.
Agrichemical powders	fine granules of agrichemicals.
Agrichemical sprays	agrichemicals applied under pressure in liquid form.
Agricultural effluent	effluent from livestock which is collected or otherwise managed as a point source discharge. This does not include discharges from individual animals in an unmanaged situation.
Air	all zones and components of the atmosphere and stratosphere which contribute to the functioning of the global environment.
Ambient air quality	the general quality of the surrounding air, reflecting the cumulative effect of all activities, both anthropogenic and natural.
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.
Asbestos	includes any of the following fibrous silicates: actinolite, amosite, anthophyllite, chrysotile, crocidolite and tremolite.

Bed means—

(a) In relation to any river—

(i) For the purposes of esplanade reserves, esplanade strips, and subdivision, the space of land which the waters of the river cover at its annual fullest flow without overtopping its banks:

(ii) In all other cases, the space of land which the waters of the river cover at its fullest flow without overtopping its banks; and

(b) In relation to any lake, except a lake controlled by artificial means,—

(i) For the purposes of esplanade reserves, esplanade strips, and subdivision, the space of land which the waters of the lake cover at its annual highest level without exceeding its margin:

(ii) In all other cases, the space of land which the waters of the lake cover at its highest level without exceeding its margin; and

(c) In relation to any lake controlled by artificial means, the space of land which the waters of the lake cover at its maximum permitted operating level; and

(d) In relation to the sea, the submarine areas covered by the internal waters and the territorial sea.

Best practicable option in relation to a discharge of a contaminant or an emission of noise, means the best method for preventing or minimising the adverse effects on the environment having regard, among other things, to—

(a) The nature of the discharge or emission and the sensitivity of the receiving environment to adverse effects; and

(b) The financial implications, and the effects on the environment, of that option when compared with other options; and

(c) The current state of technical knowledge and the likelihood that the option can be successfully applied.

Biogas	the mixture of gases produced by anaerobic microbial decomposition of organic matter that principally comprises methane and carbon dioxide together with lesser amounts of hydrogen sulphide, water vapour or other gases (Gas Act 1992).
Boundary of the property	the legal title boundary of the property or generally recognised boundary between different types of activities.
Carbon sinks	components of the environment that lock, store, or contain carbon in non-atmospheric form (e.g., trees or other plants, ocean sediments and fossil fuels).
Carbonaceous material	material containing carbon, such as plant or animal matter.
Carbonisation	the conversion of carbonaceous material into carbon by heating; the production of coke or charcoal; the coating of a substance with carbon.
Carcinogen	any substance capable of causing cancer.
CCA	Copper - Chrome - Arsenic, used for the preservation of wood.
CFCs	Chlorofluorocarbons. Chemical compounds used in refrigeration, in foaming agents and in solvents, which contribute to depletion of the ozone layer.
Cleaner production	the provision of food, goods and services so as to minimise environmental damage and waste generation throughout the entire production system.
Cleanfill	materials such as clay, soil, rock, concrete, or brick, that are free of combustibl-e or putrescible components or hazardous substances or materials likely to create a hazardous leachate by means of biological or chemical breakdown.
Closed landfill	any landfill that no longer accepts waste for disposal.

Coastal Marine Area means the foreshore, seabed, and coastal water, and the air space above the water—

(a) Of which the seaward boundary is the outer limits of the territorial sea:

(b) Of which the landward boundary is the line of mean high water springs, except that 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.

Combustion process a process in which there is a chemical union of oxygen and a gas (or gases) accompanied by the evolution of light and/or heat.

Commercial property property or parts thereof which is predominantly used for commercial activities which are aimed at bringing a financial return.

Composting the biological reduction of organic matter to a relatively stable product.

Conservation Area in relation to the guideline levels for fluoride, includes all lands managed for conservation purposes, such as national and regional parks, conservation estate, and other significant areas. (MFE, 1994)

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.

Destructive distillation	the distillation of solid materials accompanied by their decomposition. For example the destructive distillation of coal results in the production of coke, and other materials.
Desulphurisation of iron, etc	the removal of sulphur from iron, steel or ferrous alloys by air blowing.
Dilute	to make thinner by adding water, another liquid or a solid.
Discharge	includes emit, deposit, and allow to escape.
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 for that activity.
Dispersion model	a modelling procedure used to predict ground level concentrations of contaminants discharged into air.
Domestic property	a property used primarily as a place of residence, whether occupied or not.
Drift	the movement of airborne particles of spray or dust away from the site of application.
Dry abrasive blasting	abrasive blasting involving the use of abrasive substances such as sand, lead shot, etc.
Dust	includes small particulates containing metallic elements, organic and other materials including, but not limited to, fertilisers, cement, coal, coke, soot, carbon tars, wood, fibres, and pathogens.
Ecosystem	any system of interacting terrestrial or aquatic organisms within their natural and physical environment (Environment Act 1986).

Effect

In this Act, 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.

Electroplating processes

processes involving the deposition of a metal on a substrate, usually another metal, by electrolysis.

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.

External combustion engine

an engine in which combustion of a fuel takes place in a separate furnace (rather than within the cylinder as in an internal-combustion engine), and where the products of combustion are generally used to heat a fluid which forms the working medium during the power stroke of the engine, e.g., a steam engine.

Factory farm

any premises used for the production of primary produce from animals where the predominant processes are carried out within buildings, or closely fenced outdoor runs where the stocking density precludes the maintenance of groundcover.

Flaring

the burning of surplus gas associated with petroleum

exploration, landfill gas production, etc.

Forced air ventilation the forced expelation of air, including contaminants, from enclosed spaces, such as factories, tunnels, and offices.

Frit a calcined mixture of sand and fluxes used in glass-making, or a vitreous composition used in the manufacture of porcelain, or enamel.

Fuel production the processing of materials into a form that may be used as a fuel.

Fumigant a substance which produces a gas, vapour, fumes or smoke.

Gasification the conversion of a (non-gaseous) substance into a gas, e.g., the production of town gas from coal.

General land use in relation to the guideline levels for fluoride, includes all lands which are not otherwise considered to be "conservation areas" or "special land uses".

Greenhouse gas gases in the earth's lower atmosphere (e.g., CO_2, methane, nitrous oxide) that cause the global "greenhouse" effect. This is a natural effect that traps heat in the atmosphere near the earth's surface.

Green waste organic material including:

- vegetative material, but not tree trunks or limbs larger than 100 mm diameter;
- vegetable peelings or trimmings, but not other kitchen wastes;
- soil attached to plant roots;

that may be physically modified but is otherwise in its natural state.

Halogenated hydrocarbons a resilient group of hydrocarbons containing fluorine, bromine, iodine, or chlorine. Halogenated hydrocarbons can be extremely hazardous and can also contribute to the depletion of the ozone layer.

Health means a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity. It includes the inter-related concepts of physical health, mental health and social health.

Higher heating value of input fuel the heat generated by burning a standard quantity of fuel under standard conditions with condensation of the water vapour formed during combustion.

Plant growth regulator chemical which upsets cell division and elongation in plants.

Horticultural property property, or parts thereof, which is predominantly used for horticultural activities

Hot-dip galvanising the production of a corrosion-resistant zinc coating on articles by immersion in molten zinc.

Hot-mix asphalt the materials made by combining bituminous substances with shingle, stone chips, sand, etc. through the application of heat.

Hydrocarbons compounds containing only carbon and hydrogen.

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.

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.

Internal combustion engine an engine in which combustion of a fuel takes place within the cylinder and the products of combustion form the working medium during the power stroke.

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.

Inversion (temperature inversion, thermal inversion). Occurs when weather conditions trap a layer of dense, cool air beneath a layer of less dense warm air in an urban basin or valley. The "lid" of warm air prevents upward-flowing air currents from developing and dispersing pollutants.

Kaitiakitanga means the exercise of guardianship by the tangata whenua of an area in accordance with tikanga Maori in relation to natural and physical resources; and includes the ethic of stewardship.

Label in relation to a container of a pesticide, means any written, pictorial, or other descriptive matter marked on or affixed to the container.

Lake means a body of fresh water which is entirely or nearly surrounded by land.

Land clearance the removal of vegetative matter and/or construction material from land, usually occurring when new crops are to be planted or buildings erected.

Landfill a waste disposal site of any size used for the controlled deposit of solid wastes onto or into land, but not including deposition associated with a quarry or other cleanfill material.

Landfill gas gas generated as a result of the decomposition processes in decaying wastes deposited at a landfill. It comprises mainly methane and carbon dioxide but includes a range of other components.

Large-scale weather processes weather processes of a national scale. These processes determine the overall climate of the Region, influence climate change, the transport of ozone-depleting substances, and the long-range transport of air pollutants.

Livestock land grasslands used for grazing cattle, sheep, etc.

m^3 (at STP) adjusted to Standard Temperature and Pressure i.e., 0^oC, dry gas, and one atmosphere pressure.

Mana whenua means customary authority exercised by an iwi or hapu in an identified area.

Manufacturer in relation to Rules 1 and 2, means the person who, as owner, packs the pesticide, or causes it to be packed, for sale; "to manufacture" has a corresponding meaning.

Medical wastes wastes associated with human healthcare, including wastes from hospitals, morgues, training facilities and so forth, including body parts.

Medium-scale weather processes weather processes which are primarily influenced by the interaction between incoming weather systems and regional topography.

Metallurgical processes processes involving metals and their alloys, including extraction and use.

Meteorology the study of the motions and phenomena of the atmosphere, particularly for weather forecasting.

Method a practical action to give effect to a policy (includes a regional rule).

Mobile source a source that is included within the meaning of "moveable source" as used in section 15(2) of the Act, including mobile transport sources and other mobile sources such as asphalt plants, metal screening plants, abrasive blasting and spray painting.

Mobile transport sources emissions from transport which is self propelled by an internal or external combustion engine (e.g., cars, trucks, buses, trains, aircraft), but not including sources of emissions such as mobile generators, etc.

Municipal wastes wastes generated by a local community and disposed of at a central location (e.g., landfill, rubbish dump).

Natural gas a mixture of naturally-occurring hydrocarbons that are gaseous under normal conditions of temperature and pressure, comprising methane together with small amounts of ethane, propane, and other gases.

Natural and physical resources	includes land, water, air, soil, minerals, and energy, all forms of plants and animals (whether native to New Zealand or introduced), and all structures.
Non-complying Activity	an activity that contravenes a rule in a plan, but is not a prohibited activity. It is allowed only if a resource consent is obtained.
NO_x	Nitrogen oxides.
Objective	a desired result of the implementation of the Plan.
Odour threshold	the minimum magnitude of odour stimulus that can be reliably discriminated from there being no odour present.
Opacity	Degree to which the discharge is opaque, not transparent, impenetrable to sight.
Open burning	the burning of materials in the open, not in an enclosure.
Open surface water body	a surface water body with an average bed width of 3 metres or more, which is not covered by a canopy of vegetation.
Ozone layer	layer of gaseous ozone (O_3) 17-26 kilometres above sea level in the stratosphere. The ozone layer protects life on earth by filtering out harmful, ultraviolet radiation from the sun.
PAH	Polyaromatic hydrocarbon.
Particulate	(atmospheric particulate). Small particles in the atmosphere such as dusts and smoke
Pastoral land	grasslands used for grazing cattle, sheep, etc.
Permitted Activity	means 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.
PM_{10}	particulates in the 0-10 micrometre size range.
Point of discharge	the point at which the discharge of contaminants to air enters the atmosphere.

Policy a general plan or strategy to achieve the desired result. In this Plan it refers to a policy of the Wellington Regional Council which is able to be implemented by the Council in accordance with its functions.

Pozzolanic materials materials which, when mixed with mortar, cause it to harden (originally a volcanic dust, named after Pozzuoli in Italy).

Production land

(a) Means any land and auxiliary buildings used for the production (but not processing) of primary products (including agricultural, pastoral, horticultural, and forestry products):

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

and "production" has a corresponding meaning.

Prohibited Activity an activity expressly prohibited by a rule in a plan and for which no resource consent can be granted.

Property one or more allotments as contained on a single certificate of title and also includes all adjacent land that is in the same ownership.

Public amenity areas public areas, including public roads, which allow people access to services and an appreciation of an area's pleasantness, aesthetic coherence and cultural and recreational attributes. These include parks, reserves and wildlife areas, public gardens, golf courses, bowling greens, playing fields and public walkways.

Public areas areas to which the public have free and easy access.

Quarantine goods/wastes goods or wastes which have failed to gain an import health permit under the Biosecurity Act 1993, unless exempt from a permit under that legislation, or which otherwise do not gain biosecurity clearance under sections 27 and 28 of the Biosecurity Act 1993.

Re-entry period the recommended elapsed time for readmission into any area where agrichemical applications have been made, without wearing suitable protective equipment (NZS 8409:**[**1999**]**).

In the meaning of re-entry period , the date in square brackets was substituted for the original date by Plan Change 1 to the Regional Air Quality Management Plan 2003

Regional Policy Statement (RPS)	an operative regional policy statement approved by a regional council under the First Schedule of the Act and including all operative changes to such a policy statement.
Regional Rule	a rule made as part of a regional plan in accordance with section 68 of the Act.
Residue	the amount of pesticide remaining in or on a crop or in the soil.
River	means a continually or intermittently flowing body of fresh water; and includes a stream and modified watercourse; but does not include any artificial watercourse (including an irrigation canal, water supply race, canal for the supply of water for electricity power generation, and farm drainage canal).
Silviculture	the growing and tending of trees (including for the purposes of commercial forestry).
Solvent recovery	the recovery of solvents for reuse as undertaken in certain manufacturing processes.
SO_x	Sulphur oxides.
Special land uses	in relation to the guideline levels for fluoride, include all lands containing commercially valuable plants/crops sensitive to fluoride.
Stratosphere	layer of atmospheric air above the troposphere, from 12 to 50 kilometres above sea level. The "ozone layer" is found in the stratosphere.
Stratospheric ozone	the ozone layer is a layer in the atmosphere (the stratosphere) between 20 and 25 kilometres above the earth's surface. It absorbs approximately 99 percent of the incoming UV-B solar radiation by ozone.
Tangata whenua	in relation to a particular area, means the iwi, or hapu, that holds mana whenua over that area.
Taonga	treasure, property. Taonga are prized and protected as sacred possessions of iwi. The term carries a deep spiritual meaning and taonga may be things that cannot be seen or touched.

Territorial authority a city council or a district council.

Tikanga Maori means Maori customary values and practices.

Toxicity the degree to which a substance is injurious or poisonous.

Troposphere layer of atmospheric air extending about 12 kilometres upwards from the earth's surface. About 95 percent of the planet's mass of air circulates in the troposphere, and the air temperature decreases rapidly with altitude. The troposphere is made up of approximately 78 percent nitrogen and 21 percent oxygen, with small amounts of other gases and water vapour.

Unused (waste) oil unused virgin oil that becomes contaminated when spilled, or mixed with other wastes, or fails to meet specifications.

Unused (virgin) oil a refined petroleum product containing significant quantities of alkyl, naphthenic, and aromatic hydrocarbons. The oil may also contain additives to improve its lubrication, wear, oxidation and corrosion characteristics.

Used (waste) oil a petroleum - or synthetically - derived oil whose physical and chemical properties have changed such that it cannot be used for its original purpose.

UV-B radiation an invisible form of radiation emitted from the sun. The light frequency of UV-B radiation can kill living tissue and is therefore used to sterilise medicines and surgical instruments. It has harmful effects on human health.

Waahi tapu sacred site. These are defined locally by the hapu and iwi which are the kaitiaki for the waahi tapu.

Waste oil oil which has become contaminated during storage, handling and use. It may be used or unused oil.

Wet abrasive blasting abrasive blasting involving the use of high-pressure water as the blasting medium.

Work with asbestos work involving the handling, working, processing, use, storage, cleaning, or disposal of asbestos, or the demolition or destruction of any building or thing containing asbestos, and any cleaning work in consequence or connection with any of the above mentioned activities.

4. Objectives and Policies

4.1 Objectives

4.1.1 High quality air in the Region is maintained and protected, degraded air is enhanced, and there is no significant deterioration in ambient air quality in any part of the Region.

Objective 4.1.1 is implemented by all the policies in this Plan.

4.1.2 Discharges to air in the Region are managed in a way, or at a rate which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while ensuring that adverse effects, including any adverse effects on:

- local ambient air quality;
- human health;
- amenity values;
- resources or values of significance to tangata whenua;
- the quality of ecosystems, water, and soil; and
- the global atmosphere;

are avoided, remedied or mitigated.

Objective 4.1.2 is implemented by Policies 4.2.4-4.2.25 in particular.

4.2 Policies

General ambient air quality management

4.2.1 To have regard to the Regional Ambient Air Quality Guidelines in Appendix 2, in managing the Region's air resource.

Explanation: *Ambient air quality guidelines set out desired levels of specified contaminants in the air. Ambient air quality reflects the* ***cumulative*** *effects of all activities. The ambient air quality guidelines, as adopted from the National Ambient Air Quality Guidelines (MFE, 1994), are outlined in Appendix 2. In this Appendix:*

- *the* ***maximum acceptable levels*** *are defined as the level adequate to protect the health of individuals. These levels would be applied in areas where existing activity has had a significant effect on air quality; and*

- *the **maximum desirable levels** are defined as the level that will provide maximum protection to the environment, taking into account existing air quality, community expectations, economic implications, and the purpose and principles of the Act. Desirable levels are appropriate guidelines or targets in rural or residential areas, and in other areas with good air quality. These levels are based on Canadian standards and do not appear in the National Ambient Air Quality Guidelines.*

Averaging times are the times over which the average level of the indicator should not exceed the levels given in the guidelines. The methods (Australian Standards) to be used for measuring the indicators are indicated in Appendix 2.

These guidelines are not generally intended to be used to set individual emission limits. They are likely to be used in this way only when the nature or scale of a proposed activity is likely to have effects on air quality which outweigh all other activities in the area, and/or when there is data available on the effects of all other discharges in an area.

4.2.2 To adopt the indicators specified in Appendix 2 as the principal ambient air quality indicators for air quality in the Wellington Region.

***Explanation:** Ambient air quality indicators are indicators representative of the overall quality of the air in an area. Appropriate indicators will vary across the urban and rural areas. In the first instance indicators will be prioritised and adopted from Appendix 2 according to the area of the Region being monitored. Other indicators, such as benzene, will also be included for monitoring should they become a cause for concern or more prevalent in discharges to air. The monitoring of other indicators need not necessarily be heralded by a change to the Plan.*

4.2.3 To gather data on ambient air quality, the emission of contaminants to air, and meteorology in the Wellington Region.

***Explanation:** Information on ambient air quality, the types and amount of contaminants discharged to the atmosphere, and meteorology in the Wellington Region is currently in short supply. Such information is essential to the future refinement of the ambient air quality guidelines (Appendix 2) in order to make them more specific to the Region.*

4.2.4 To avoid, remedy or mitigate any adverse effect of the discharge of contaminants to air that is noxious, dangerous, offensive, or objectionable.

***Explanation:** This policy reflects the general duty under section 5 of the Act to promote the sustainable management of natural and physical resources by avoiding, remedying or mitigating adverse effects. It also reflects the general duty placed on all persons under section 17 of the Act to "avoid, remedy or*

mitigate any adverse effect on the environment from an activity carried on, by or on behalf of that person". It applies to all individuals or groups carrying out an activity which involves the discharge of a contaminant to air.

4.2.5 To avoid or minimise, where appropriate and practicable, the discharge of contaminants to air at their source.

Explanation: *Most discharges to air are "wastes", in that they are unwanted by-products of a process. It is now commonly accepted (e.g., in central government waste management policy) that priority should be given to minimising wastes at source. The words "where appropriate and practicable" in this policy indicate that in some situations alternative ways of avoiding, remedying or mitigating the adverse effects of air pollution may be more appropriate than avoiding or minimising emissions at their source.*

4.2.6 To ensure that any measures adopted to avoid, remedy or mitigate the effects of discharges of contaminants to air, take account of the sensitivity of alternative receiving environments (e.g., water or soil).

Explanation: *Measures taken to control the effects of discharges to air (and in particular, measures which minimise those discharges may increase adverse effects on other parts of the environment (e.g., water or soil). This policy requires that effects of this type be considered in an integrated manner when assessing options to avoid, remedy or mitigate the effects of discharges of contaminants to air.*

4.2.7 To avoid, remedy or mitigate the adverse effects of the discharge of contaminants to air on amenity values.

Explanation: *This policy recognises the need to protect amenity values most commonly affected by the emission of smoke, dust and odour.*

4.2.8 To encourage the development and use of industry guidelines, and codes of practice to reduce the adverse effects of the discharge of contaminants to air.

Explanation: *This policy recognises industry guidelines and codes of practice as important means of avoiding, remedying or mitigating the adverse environmental effects of the discharge of contaminants to air. Such guidelines and codes can be appropriate alternatives to regulation in achieving the purposes of the Act. Where there are relevant industry codes of practice established, the Council will consider classifying activities that comply with such codes as permitted or controlled activities (through plan change).*

4.2.9 To give particular consideration, where relevant, to the following matters when assessing an application for a resource consent to discharge contaminants to air:

(1) the volume, composition and characteristics of the discharge, including the

maximum ground level concentration of significant contaminants in the discharge, especially hazardous contaminants identified in Appendix 1 and any contaminants listed in Appendix 2;

(2) the frequency, intensity, duration, offensiveness, location and time of the discharge;

(3) the potential for the discharge to be reduced at source, and in particular, the desirability of minimising the emission of any of the "Hazardous Air Contaminants" identified in Appendix 1;

(4) any actual or potential effects of the discharge on human health and safety;

(5) any actual or potential effects of the discharge on amenity values, including any effects of odour or particulate matter arising from the discharge;

(6) any actual or potential effects of the discharge on resources or values of significance to tangata whenua;

(7) any actual or potential effects of the discharge on the health and functioning of ecosystems, plants and animals, including indigenous ecosystems and plants and animals of commercial significance;

(8) any actual or potential effects of the discharge on other environmental media;

(9) any actual or potential effects on the global atmosphere;

(10) any cumulative effects which may arise over time or in combination with other effects;

(11) any effects of low probability but high potential impact;

(12) any positive effects arising from activities associated with the discharge; and

(13) any other relevant matters.

Explanation: *This policy sets out the matters to which the Council will give particular consideration when assessing an application to discharge a contaminant to air. These matters will be considered to the extent relevant to the particular application (not all of the matters in this Policy will be relevant to all discharges). The Policy does not limit the matters that may be considered by the Council.*

Part (1) examines the nature of the discharge. Particular attention will be given to the presence of any hazardous contaminants identified in Appendix 1 and/or any of the provisional regional ambient air quality indicators identified in Appendix 2. Part (2) lists six factors which need to be considered when assessing the effects of a discharge. Part (3) looks at the potential for the effects of the discharge to be reduced through the use of cleaner production techniques and the use of emission control technology. In particular, the Council will consider the potential for any hazardous contaminants to be reduced.

The remaining parts of the Policy relate to the actual and potential effects that a discharge may have on various aspects of the environment. In Part (4), "health" includes the physical, mental and social health of any individual or group of individuals. This is closely related to Part (5), which includes an examination of nuisance effects, effects on visibility, and effects on the appearance of structures (e.g., soiling of buildings). In relation to Part (6), effects such as loss of visibility or the presence of offensive odours may impair the cultural significance of waahi tapu or valued natural and physical resources (taonga). Part (7) of the Policy is particularly concerned with effects on indigenous ecosystems, other ecosystems of high national, regional or local value, and effects on plants and animals of commercial significance. Part (8) examines the cross-media effects of contaminants discharged to air (e.g., the effects on water quality and aquatic ecosystems of any discharge to air which may precipitate into water). Part (9) of the Policy examines effects of potential global significance, including the discharge of contaminants that may contribute to global warming or ozone depletion or similar problems. Particular attention will be given to the need to be consistent with any central government commitments in these areas.

Cumulative effects (Part (10)) may arise either from the interaction of two or more contaminants (e.g., nitrogen dioxide can contribute to the formation of acidic compounds that can harm plants and animals), from the accumulated effects of a single contaminant over time (e.g., fluoride can accumulate in stock from grazing on pasture and feed), or from the cumulative effects of a number of discharges in one area. Effects of low probability but high potential impact include effects that might occur in an emergency discharge situation. Positive effects are included within the meaning of "effect" in section 3 of the RMA.

4.2.10 To adopt the following approach when placing conditions on air discharge permits:

(1) to set emission limits on a discharge, where appropriate, in order to minimise its effects on ambient air quality and the surrounding environment;

(2) to require, where appropriate, that the best practicable option (BPO) be adopted to prevent or minimise the adverse effects arising from discharges;

(3) to minimise the emission of any of the hazardous air contaminants identified in Appendix 1;

(4) to require, where appropriate, an operations manual and contingency plans relating to discharges;

(5) to require, where relevant, adherence to particular guidelines or codes of practice; and

(6) to require appropriate effects-based monitoring, where appropriate, which may consider a wider range of air contaminants and their effects than those listed in Appendix 2.

Explanation: *This Policy sets out the Council's approach to developing conditions on permits for the discharge of contaminants to air. The Policy indicates the Council's general approach but does not restrict its ability to adopt any other approach where necessary and appropriate.*

Part (1) promotes the adoption of emission limits where it is appropriate. "Where appropriate" includes, but is not limited to, considering how much information is available on the nature of a discharge to minimise its effects on ambient air quality and the surrounding environment. There is currently limited information on background levels. Only in situations where there is good information available on background levels of contaminants and the likely effects of other discharges in an area on ambient air quality, are the regional ambient air quality guidelines (Appendix 2) likely to be used in setting appropriate emission limits for individual activities,[1] otherwise Part (2) of the policy will be more relevant than Part (1).

Applicants should provide the Council with justification for any ambient guidelines used when assessing the effects of an activity.

Parts (2) and (3) of the policy promote the adoption of the best practicable option (BPO), where there is insufficient information on the nature of the discharge and/or its effect on ambient air quality. The best practicable option is defined in section 2 of the Act.

The BPO takes into account all discharges from a source (to land, water and air) to identify the best option for minimising any adverse effects. This may involve minimising discharges at their source. This approach is consistent with Policy 4.2.5 of this Plan which promotes the minimisation of discharges at their source.

Before including a condition in a resource consent requiring that the BPO be adopted, the Council must be satisfied that this is the most efficient and effective means of preventing or minimising any actual or likely adverse effect on the environment. The Council will have regard to the nature of the discharge, the receiving environment, and other alternatives, including any condition requiring the observance of minimum standards (RMA section 108(8)). The BPO would therefore be an appropriate approach to be applied in the absence of emission standards or good information on the effects of a discharge on ambient air quality. It is likely to be a relatively common approach during the period when information on the effects of activities on ambient air quality is being collected.

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1 *Note that ambient air quality guidelines may be used to help calculate emission limits for individual activities. Guideline values do not equate directly with individual emission limits for activities, as they reflect the sum of the effects of all activities in an area on ambient air quality.*

Part (4) of the policy acknowledges that even with the best control equipment, if maintenance or operating procedures are poor, adverse environmental effects can still arise from the discharge. Often good practice may be the best means of avoiding, remedying or mitigating the adverse effects of an activity. Part (5) recognises the importance of guidelines and codes of practice, as highlighted in Policy 8, in achieving the avoidance, remediation or mitigation of adverse effects.

4.2.11 To recognise that there are circumstances where placing conditions on resource consents may not be sufficient to adequately avoid, remedy or mitigate the adverse effects of a proposal, and that in such circumstances a consent application will be declined.

Explanation: *This policy indicates that in some circumstances adverse effects will be of such significance that an application must be declined.*

4.2.12 To have regard to the following matters when determining the nature and extent of any conditions to be placed on a resource consent:

(1) the significance of the adverse effects arising as a consequence of, or in association with, the proposed activity;

(2) the extent to which the proposed activity contributes to the adverse effects;

(3) the extent to which the adverse effects of the proposed activity can be, and have been, dealt with by other means;

(4) any proposals by the applicant to avoid, remedy or mitigate adverse effects, and any agreements reached at pre-hearing meetings;

(5) the monitoring proposed to be carried out by the applicant;

(6) the extent to which the community as a whole benefits from the proposed activity and from any proposed conditions on a consent;

(7) the financial cost of complying with any conditions on a consent;

(8) the extent to which a condition placed on a consent will avoid, remedy or mitigate any adverse effects;

(9) the degree of compliance with a relevant industry code of practice; and

(10) agreements with affected parties.

Explanation: *This policy outlines the matters to be assessed when determining whether any conditions should be placed on a resource consent and the nature of any such condition. The particular circumstances and nature of each application will be taken into account.*

4.2.13 To avoid, remedy or mitigate adverse effects, conditions on a resource consent may relate to all or any of the following:

(1) project design and implementation, choice of materials, site improvements;

(2) habitat restoration, rehabilitation, creation and improvement;

(3) restocking and replanting of fauna or flora (with respect to replanting, preference will be given to the use of indigenous species, with a further preference for the use of local genetic stock);

(4) works and services relating to the improvement, provisions, reinstatement, protection, restoration or enhancement of the matters listed in Policy 4.2.12; and

(5) the monitoring proposed to be carried out by the applicant.

Explanation: *This policy outlines the matters which a condition on a consent may relate to.*

4.2.14 To avoid, remedy or mitigate any adverse effects, (including on human health or amenity values) which arise as a result of the frequency, intensity, duration, offensiveness, time and location of the discharge to air of odorous contaminants.

Explanation: *This Policy indicates the Council's approach to the control of odour. The Council will require, through rules in this Plan, through conditions on resource consents, and through its enforcement responsibilities under the Act, that the effects of odorous activities be avoided, remedied or mitigated. The effects of odour include nuisance effects, effects on cultural values and amenity values, and human health effects (e.g., stress, headaches, nausea). Frequency, intensity duration, and offensiveness (henceforth referred to as the FIDO factors) are the four properties of odorous discharges which contribute to odour nuisance. The time and location of the odour are also important in any assessment of its effects. Odours that are acceptable at some times, and in some locations, may not be in other times or locations. The Council will consider the type of surrounding land use activities when assessing odour complaints.*

Odour can be difficult to measure and often odour complaints focus on the odour being "offensive and objectionable". The Courts have determined that whether something is offensive or objectionable depends upon the perception of "reasonably ordinary persons". It is an objective test, not a subjective test. Accordingly, the views of complainants or a particular enforcement officer are not determinative, but can be the trigger for further investigation and will be considered when applying the test.

Each investigation of a complaint concerning noxious, dangerous, offensive or objectionable discharges will depend upon the specific circumstances. However, for odour, the approach will be as follows: in responding to a complaint relating to a breach of a condition concerning odour (for a resource consent or permitted activity rule), what may be "offensive or

objectionable" will generally be determined initially by a council officer, or officers, who have experience in odour assessment. In such assessments, officers will generally follow relevant case law principles and take into account the FIDO factors, as well as location and time. This approach aims to promote consistency in the assessment of odour.

FIDO factors will be considered in combination, as no single FIDO factor determines how offensive or objectionable an odour is. For example, a low frequency, high intensity odour may be objectionable, as may be a high frequency, low intensity odour. If the odour is assessed as being offensive or objectionable, the discharger may be asked to take whatever action is necessary to avoid, remedy or mitigate the effects of the discharge. Where circumstances warrant, enforcement action may be taken in the form of an abatement notice, infringement notice, enforcement order application or prosecution, pursuant to the Act.

Where further information regarding the odour may be appropriate, monitoring and assessment of odours can occur through a number of approaches including:

- *the use of odour diaries kept by people living and working in the subject area;*
- *additional odour assessors, or an odour assessment panel;*
- *independent odour monitoring; and*
- *technical olfactometry measurement methods.*

Where appropriate, the Council may also promote consultation between the affected community and the discharger.

In circumstances where good information is available on the odorous nature of a discharge and its effects on the surrounding environment, emission limits for odour may be applied as conditions on resource consents. A common requirement for odour is that no noxious, dangerous, offensive or objectionable odour is able to be detected beyond the boundary of the site on which the activity is taking place. This condition has been applied to the majority of the rules in section 7 of this Plan. For mobile sources, and other sources that have no boundary and are not explicitly covered by the rules, particular regard will be given to location relative to surrounding land uses.

In other situations, the use of the best practicable option (BPO) to prevent or minimise the effects of odorous discharges may be required. Available odour control technologies which could be part of a BPO approach, include:

- *vent gas collection (all gases are collected and passed through a control device);*

- *vent gas condensation (condensing the gas stream reduces its volume and may also reduce the odour content);*
- *chemical treatment, such as oxidation reaction with hypochlorite;*
- *biological treatment, such as passage through a biofilter;*
- *adsorption (the odorous components of the gas attach to the surface of a special solid (adsorbent) such as activated carbon);*
- *incineration (the odorous gas is held at temperatures high enough to combust and thereby destroy odorous contaminants; and*
- *atmospheric dispersion (the last step in an odour control process).*

Odours can also arise from sources which do not have a single discharge point (e.g., landfills, sewage treatment). In these cases, good management practices may be the best means of controlling odour.

Note: *The above discussion does not bind the Council to any particular form of compliance monitoring or enforcement, in any particular case.*

4.2.15 To require that, where appropriate, dispersion models are used to assess the potential effects of discharges to air.

Explanation: *This policy adopts, where appropriate, the use of dispersion models as a guide to assess the potential effects of discharges to air. NIWA (1996) guidelines provide relevant advice on the application of dispersion models in New Zealand. Dispersion modelling may be required of applicants in situations where:*

(1) The combined generation capacity (measured by the higher heating value of the input fuel) exceeds 5 MW, or the discharge includes contaminants other than the normal products of combustion, (that is carbon dioxide, carbon monoxide, sulphur dioxide, nitrogen oxides and water));

(2) there are significant background levels of the contaminants proposed to be discharged;

(3) surrounding land uses are particularly sensitive to the contaminants proposed to be discharged; or

(4) existing levels of any pollutants are known, or suspected to be above 50 percent of the Maximum Desirable Levels identified in Appendix 2.

Dispersion modelling will usually not be necessary where the potential adverse effects of the discharge are minor.

4.2.16 To have regard to the stack height guidelines in Appendix 3 as the primary means of setting stack heights for activities which burn coal, oil or natural gas and which

require resource consents to discharge to air.

Explanation: *The guidelines in Appendix 3 have been derived from the Third Edition of the 1956 Clean Air Act Memorandum on chimney heights (Department of the Environment, 1981), information from stack height guidelines used in Victoria and New South Wales (EPA, 1993), and the United States Environmental Protection Agency. The criteria applied are generally accepted technical standards for chimney height calculations in New Zealand.*

The guidelines may not be applicable in all cases. Where they are not applicable, a dispersion model may be used to model the ground level concentrations of contaminants as detailed in the NIWA (1996) guidelines.

This guide is only applicable to minimising effects from the gaseous products of combustion. Dispersion is not an effective option to control significant discharges of smoke or particulates because these discharges are highly visible and are also affected by gravity, leading to the settling out of particulates.

Discharges to air from domestic activities

4.2.17 To adopt, as far as is practicable, a non-regulatory approach to discharges of contaminants from domestic sources.

Explanation: *Policy 4.2.17 recognises the difficulties in trying to regulate the emission of contaminants from various domestic activities. The policy proposes that discharges from domestic sources should be controlled through non-regulatory mechanisms such as public education and advocacy. This approach is cost effective and is intended to make the public more aware of the potential adverse effects of their activities on the environment. Issues to be dealt with through public promotion campaigns and advocacy include discouraging open burning and outdoor incineration of domestic and garden refuse, promoting efficient solid fuel heating devices, and discouraging the burning of copper-chrome-arsenic treated timbers (a discretionary activity under Rule 19).*

4.2.18 To promote the use by territorial authorities of their power under the Health Act 1956 and other statutory powers to control localised nuisance effects resulting from domestic refuse and garden waste, and other health related nuisance effects caused by the discharge of contaminants to air.

Explanation: *Territorial authorities are empowered by the Health Act 1956 (section 23) to monitor and control any activities causing a nuisance, or likely to be injurious to health or be offensive. Section 29 of that Act lists the types of nuisances which can be controlled by territorial authorities.*

Given these powers, it is not necessary for this Plan to include rules which are specifically directed at domestic activities. Nevertheless, there are some activities, such as the burning of plastics and rubber, which could occur in residential areas, which do require more stringent control using the provisions of the Act. These are provided for in the rules of this plan.

Discharges to air from burn-offs

4.2.19 To ensure that any adverse effects on air quality arising from land clearance activities are avoided, remedied or mitigated and to promote:

(1) the adoption of good practice measures to mitigate the adverse effects of burn-offs; and

(2) the use of alternative means of land clearance in situations where adverse effects of burning on the environment are greater than the adverse effects of any alternative means.

Explanation: *This policy addresses land clearance activities which result in the discharge of contaminants (particularly smoke) to air. Agricultural and forestry burn-offs produce emissions which can give rise to effects on health and amenity, odour, a reduction in visibility, the soiling of material, and fire risk. Land clearance by burn-off is controlled through a permitting process in the Forest and Rural Fires Act 1977. Good practice measures (Part 1) include such practices as minimising the amount of green material burnt by seasonally adjusting the burn-off schedule.*

In some cases (e.g., burning near residential areas) alternative means with fewer adverse effects on the environment than burn-off may be available. In these situations, the Council will advocate that land clearance and removal of vegetation be carried out in a manner which has fewer overall environmental effects (e.g., removal of vegetation to an alternative disposal site, mulching etc.).

Discharges to air from the spray and powder application of agrichemicals

4.2.20 To avoid or mitigate the adverse effects of the application of agrichemical sprays and powders by promoting:

(1) alternative means of pest control in order to encourage less reliance on the use of agrichemicals;

(2) the use of agrichemicals which are less likely to create an off-target spray drift hazard;

(3) the good management of agrichemical application; and

(4) training of all people involved in the spray application of agrichemicals.

Explanation: *The application of agrichemical sprays and powders includes application by helicopter, aeroplane, or fixed or mobile systems on the ground. This policy covers the spray application of agrichemicals on production land (e.g., for horticulture or forestry), public land (e.g., roadsides, parks) and on private residential properties.*

Policy 4.2.20 addresses the adverse effects of spray drift which result from the spray application of agrichemicals. These effects may arise if the chemical travels through the air to reach environments other than the intended target of the spraying and can include health effects, nuisance effects, plant damage, and contamination of waterways.

Reductions in the quantity of agrichemicals used can be achieved through the adoption of more efficient agrichemical application techniques, spraying less often (e.g., through the adoption of an integrated pest management strategy), and using other non-chemical means of pest control.

Agrichemicals which are less likely to create a spray drift hazard include those which are less hazardous to the environment surrounding the target area and those which are less volatile.

Management practices which can reduce the off-target effects of spray drift include:

- *spraying only during appropriate weather conditions;*
- *using shelter belts to reduce the passage of agrichemicals to neighbouring properties;*
- *using appropriate and well-maintained equipment (nozzle type etc.);*
- *ensuring that the spray target area is positively identified (for aerial spraying);*
- *careful planning of crop locations (including the use of buffer zones);*
- *good communication between neighbours and other parties who could be affected by off-target effects; and*
- *spraying at times during the day and/or during the year when non-target species are less vulnerable, wherever possible.*

Training of operators is an effective means of reducing the adverse effects of spray drift. Appropriate training courses include the "GROWSAFE" programme promoted by the NZ Agrichemical Education Trust.

4.2.21 To promote the adherence, by all persons undertaking the spray application of agrichemicals, to the relevant sections of the most recent edition of the Agrichemical Users' Code of Practice.

Explanation: *The Agrichemical Users Code of Practice is promoted through the New Zealand Agrichemical Education Trust. It has been endorsed as New Zealand Standard 8409:***[***1999***]** *under the Standards Act 1988. It includes guidelines on spray drift and drift hazard management and the handling, storage and application of agrichemicals.*

In 4.2.21, the date in square brackets was substituted for the original date by Plan Change 1 to the Regional Air Quality Management Plan 2003

Discharges to air from mobile transport sources

4.2.22 To avoid, remedy, or mitigate the adverse effects of discharges to air from mobile transport sources and to promote:

(1) the use of transport fuels which are low or non-polluting;

(2) the use of fuel-efficient and well maintained vehicles; and

(3) driving habits which minimise the production of harmful emissions.

Explanation: *Emissions from mobile transport sources are acknowledged as a major source of air pollution in the Region. Mobile transport sources of contaminants are by their nature difficult to regulate on a region by region basis. Drivers can contribute to reducing air pollution from motor vehicles by the three mechanisms set out in this policy.*

The Council will retain responsibility for measuring ambient air quality and undertaking emission inventories relating to discharges from motor vehicles.

4.2.23 To promote improved air quality in the Region through regional and district transport planning practices which:

(1) encourage the development of an efficient and effective public transport system;

(2) promote the use of non-motorised forms of transport such as walking and cycling; and

(3) aim to reduce the growth in motor vehicle numbers and motor vehicle congestion in urban centres.

Explanation: *Policy 4.2.23 aims to deal with the effects of motor vehicle emissions through transport planning mechanisms. At a regional level the Regional Land Transport Strategy, prepared by the Council under the Transit New Zealand Amendment Act 1992, is the main transport planning document. This document contains policies which promote restraint in private motor vehicle use and encourage alternative forms of land transport for the Region. District Plans can also be used to implement this policy. They could include, for example, provisions for controlling the growth in long-stay car parking spaces in urban centres, traffic calming measures, provisions which make*

cycling and walking more attractive transport options, and provisions relating to urban form.

Motor vehicle congestion results in stop-start driving, which causes inefficient combustion. Reduced congestion improves most vehicle emission characteristics, and together with reduced growth in motor vehicle numbers, reduces undesirable vehicle emissions.

Global air quality

4.2.24 To support and promote, as appropriate, central government initiatives to control and minimise discharges of ozone depleting substances.

Explanation: *Ozone depleting substances include:*

- *CFCs (chlorofluorocarbons). Typical sources include refrigerants and air conditioning systems;*
- *HCFCs (hydrochlorofluorocarbons). Typical sources include aerosol propellants and insulation for refrigeration;*
- *nitrous oxide. This arises from microbial production in soils and the decomposition of animal faeces;*
- *halons. Fire extinguishers are the principal source; and*
- *methyl bromide (a fumigant) and other ozone-depleting fumigants.*

Central government has primary responsibility for the control and minimisation of discharges of ozone-depleting substances in line with its responsibilities under the international agreement known as the Montreal Protocol. The Ozone Layer Protection Act 1990 is the Government's main tool for implementing its obligations under the Protocol. This Act lists specified CFCs and halons, methyl chloroform, and carbon tetrachloride as substances to be phased out according to given timetables. CFC importation and production will be banned by 1 January 1996. Halon importation and production was banned on 1 January 1994. This policy indicates the Council's commitment to contributing to and promoting the phase-out programme specified in the Ozone Layer Protection Act.

4.2.25 To support and promote, as appropriate, central government initiatives to control and minimise greenhouse gas emissions.

Explanation: *Greenhouse gases are gases which contribute to the "enhanced greenhouse effect". This has been linked with global climate change. These gases include:*

- *carbon dioxide (from the burning of fossil fuels, some production processes, and landfills);*

- *methane (from the digestive processes of ruminant animals, decomposition of animal faeces, landfills and rotting vegetation); and*
- *CFCs, HCFCs and nitrous oxide (see explanation of Policy 4.2.24).*

Central government has primary responsibility for co-ordinating the reduction of greenhouse gas emissions in New Zealand. It has set a target of holding net carbon dioxide levels at 1990 levels by the year 2000. The intent of this policy is to work with central government and other relevant organisations to develop and implement innovative responses to the control of greenhouse gas emissions. Greenhouse gases can be managed at their source through limiting emissions or through the provision of sinks (e.g., trees) which absorb carbon dioxide from the atmosphere. Landfills and emissions from motor vehicles are two significant sources of methane and carbon dioxide, both greenhouse gases.

5. Air Quality Management Rules

5.1 User Guide to the Regional Rules

The activities covered by regional rules in this Plan are listed below:

Rule	Classification	Type of discharge
Rule 1	Permitted Activity	Agrichemical spray and powder application (land based)
Rule 2	Permitted Activity	Agrichemical spray and powder application (aerial application)
Rule 3	Permitted Activity	Fumigation
Rule 4	Permitted Activity	Agricultural effluent and other on-farm processes
Rule 5	Permitted Activity	Processing of animal and plant matter
Rule 6	Permitted Activity	Small combustion engines, heating and electrical generation processes
Rule 7	Controlled Activity	Combustion engines, heating and electrical generation processes
Rule 8	Permitted Activity	Processing, storage and transfer and flaring of hydrocarbons and biogas
Rule 9	Discretionary Activity	Fuel conversion processes
Rule 10	Permitted Activity	Mineral extraction and the sorting and storage of powdered and bulk products
Rule 11	Permitted Activity	The drying and heating of minerals
Rule 12	Permitted Activity	Metal production and processing
Rule 13	Permitted Activity	Chemical processes
Rule 14	Permitted Activity	Di-isocyanate and organic plasticiser processes
Rule 15	Permitted Activity	Coating processes (including spray painting)
Rule 16	Permitted Activity	Abrasive blasting processes (mobile and stationary)
Rule 17	Permitted Activity	Cooling towers/ventilation
Rule 18	Permitted Activity	Burn-offs and burning associated with land clearance
Rule 19	Permitted Activity	Burning not associated with land clearance

Rule	Classification	Type of discharge
Rule 20	Permitted Activity	Landfilling and composting
Rule 21	Permitted Activity	Sewage and trade waste conveyance and treatment processes
Rule 22	Permitted Activity	Miscellaneous processes
Rule 23	Discretionary Activity	General rule

5.1.1 Types of activities

The rules specify activities as being permitted, controlled, or discretionary. The rules are followed by explanations which clarify the terms used and set out why particular activities require the level of control specified.

If a rule specifies that an activity is **permitted**, then it can take place without a resource consent, provided any conditions specified in the rule are met. If a rule specifies that an activity is **controlled** or **discretionary**, then it cannot take place without a resource consent. A controlled activity requires a resource consent but the Council must grant the consent. The application is only assessed according to the matters which the Council has explicitly retained control over in the Plan. A discretionary activity also requires a resource consent. The Council may refuse an application for a discretionary activity. It retains a discretion over the conditions or standards it applies to consents for such activities. Discharges to air which are explicitly excluded from the rules are discretionary activities (Rule 23).

The resource consents required by the rules in this Plan are **discharge permits**.

Regional rules have the force of regulations made under the Act. The enforcement provisions of the Act may therefore be applied if rules are breached. If no rule provides for the activity you wish to undertake:

- the discharge is a discretionary activity (Rule 23) if it occurs from any industrial or trade premises; or
- the discharge is permitted if it occurs from any non-industrial or non-trade premises (but note that the general duty of section 17 of the Act to avoid, remedy or mitigate any adverse effects still applies).

These rules do not apply to discharges from mobile transport sources, whether or not the mobile transport source is on industrial or trade premises, and no resource consents are required for such discharges.

5.1.2 Notification of resource consents

Resource consents for controlled or discretionary activities may need to be notified

in accordance with the relevant provisions of the Act. However, an application for a resource consent **need not** be notified if written approval has been obtained from every person who, in the opinion of the Council, may be adversely affected by the granting of the resource consent (unless, in the Council's opinion, it is unreasonable in the circumstances to require the obtaining of every such approval).

In addition, for applications for discretionary resource consents only, the Council will need to be satisfied that the adverse effects on the environment of the activity for which the consent is sought will be minor.

5.1.3 Block discharge consents

In some cases, such as sewage reticulation networks, there may be a multitude of discharge points where contaminants are discharged to air, or where there is the potential for them to be discharged.

In these instances the Council will consider processing consents for a "system" or "area", as long as **all** the actual or potential discharge points are clearly shown in the application for resource consent. One resource consent would apply, with the possibility of different provisions applying to different discharges.

5.1.4 Regional resource consents

Some activities which result in discharges to air are of a mobile nature (e.g., commercial fumigation, abrasive blasting, asphalt manufacture). For these types of operations, the Council will consider granting "regional" resource consents which will allow an operator to work throughout the Region, subject to some conditions.

This approach is intended to give resource users undertaking processes which are moveable and which discharge contaminants to air the freedom to conduct their activities relatively unhindered, but within the bounds of their resource consent.

5.2 Regional Rules for the Discharge of Contaminants into Air

Rule 1 Land-based agrichemical spray and powder application

The discharge of contaminants into air in connection with land-based application of agrichemical spray and powder:

(1) where agrichemical sprays are applied with a hand operated, and manually pumped, sprayer with a capacity of 20 litres or less; or where agrichemical powders are applied by hand;

(2) where agrichemical sprays or powders are applied by any means other than that described in (1); **and** the area to be sprayed or dusted with agrichemical

powder is **not located within** 50 metres of adjacent properties or places of common public assembly;

(3) where agrichemical sprays or powders are applied by any means other than that described in (1); **and** the area to be sprayed or dusted with agrichemical powder is **located within** 50 metres of adjacent properties and places of common public assembly; and

(4) in public areas and alongside public roadways using any method of application.

is a **Permitted Activity**, provided it complies with the relevant conditions below**.**

Conditions

Activity	Conditions
(1)	(i) - (vi)
(2)	(i) - (vi)
(3)	(i) - (viii)
(4)	(i) - (vi), (ix) - (xi)

The persons responsible for the activity shall ensure that:

(i) No agrichemicals are sprayed, or applied as powders, on or above surface water bodies, artificial watercourses, a bore, or spring unless they are registered for use over water bodies[2].

(ii) Where agrichemical sprays or powders are applied to the dry beds of any surface water bodies or artificial watercourses:

- only those products registered for use in dry watercourses may be applied; and
- all practical steps shall be taken to ensure that the appropriate re-entry time is allowed to elapse before water re-enters the watercourse.

(iii) Spray solutions are diluted, and sprays and powders are applied, strictly in accordance with the manufacturers' instructions and at concentrations not exceeding the manufacturers' label recommendations.

(iv) No mixing or diluting of chemicals takes place within 20 metres of a surface water body, a bore, spring, tile drain or the coastal marine area, unless the mixing or diluting takes place on an impervious surface which is bunded to contain washdown water or spillages.

(v) Sprays and powders are applied in a manner which does not cause or is not

[2] ***Note:*** *if the discharge is directly into water, a Resource Consent may be required under the Regional Freshwater Plan.*

likely to cause adverse effects beyond the boundary of the property.

(vi) The Wellington Regional Council is notified immediately in the case of accidental discharge into a water body.

Conditions (vii) and (viii) are additional to conditions (i) - (vi) for activity (3)

(vii) Written notice (either direct notification to individual properties or public notification) is given to all adjacent properties or places of common public assembly (e.g., schools, kindergartens, offices, etc.) located within 50 metres of the area to be sprayed or dusted with agrichemical powder.

Such notification is to take place prior to the spraying, not less than once a year, at the beginning of the year or spray season.

Such notification is unnecessary if owners or occupiers of adjacent properties or places of public assembly agree in writing that notification **is not** required;

Notice must be in the form of a property spray plan and include details of:

(a) the property, or part of property, to be sprayed or dusted with powder;

(b) the periods (likely day(s), date(s) and time(s)) when the agrichemical sprays or powders will be applied;

(c) the crops or vegetation to be sprayed and a list of chemicals (with brand names) to be used;

(d) any safety precautions for third parties, as noted in the most recent edition of the New Zealand Agrichemical and Plant Protection Manual (WHAM Chemsafe Ltd.);

(e) a list of immediate neighbours, and their contact phone numbers;

(f) 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;

(g) the name and contact phone number of those carrying out the agrichemical application; and

(h) the equipment and method of application to be used.

(viii) A spray diary showing how the spray plan was implemented, is maintained, and available for inspection, containing:

- date and time of spray/powder application;
- concentration and volume of spray/powder used;
- weather conditions (including wind speed and direction);
- how notification requirements have been met; and

- details of any abnormal situation or incident, and any action taken, including any variations to the spray plan.

Conditions (ix) - (xi) are additional to conditions (i) - (vi) for activity (4)

(ix) The Principal Contractor shall hold a current **[**Advanced GROWSAFE Certificate**]**, and employees shall hold a Standard GROWSAFE Certificate issued by the New Zealand Agrichemical Education Trust.

(x) Where spraying or the application of powders occurs in a public area other than roads, signs clearly advising that spraying is in progress are placed within the immediate vicinity of the activity immediately prior to commencing spraying, and maintained in place until the re-entry period for that particular chemical, has expired.

(xi) Where spraying or the application of powders occurs alongside public roads and other public thoroughfares, vehicles associated with the spraying shall display prominent signs (front and back) advising that spraying is in progress.

In condition (ix) of Rule 1, the words in square brackets were for the original wording by Plan change 1 to the Regional Air Quality Management Plan 2003

Explanation: *Rule 1 relates to the spray and powder application of agrichemicals using land-based equipment. The term "agrichemical" is defined in the Definitions. It includes all pesticides, insecticides, herbicides, and fungicides, but does not include fertilisers. This rule only applies to the application of agrichemicals by methods involving* ***spraying or dusting with powders.*** *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. Application of agrichemicals to land as solids or pastes (e.g., by baits), the aerial release of bait for the control of vertebrates and the application of agrichemicals in a granule or pellet form is addressed in the Regional Plan for Discharges to Land for the Wellington Region. Direct application of agrichemicals into water (e.g., by injection) is addressed in the Council's Regional Freshwater Plan. Application of agrichemical sprays or powders in the coastal marine area is addressed in the Regional Coastal Plan.*

Rule 1 relates to all instances where agrichemicals are sprayed or dusted in powder form, including the application of agrichemicals on domestic properties, trade and industrial premises, and in public and rural areas. The rule is primarily aimed at avoiding or mitigating the adverse effects of agrichemical spray drift on human health and safety and on surface water bodies and their ecosystems. A core set of conditions applies to all circumstances in which agrichemicals are applied, with additional conditions for application when using the larger methods of application specified and close to other properties, and in public areas.

The application of agrichemical sprays and powders using small scale application methods, other than in public areas is a permitted activity, as long as the stated conditions are complied with. Any method of application in a public area is in activity (4). All other applications are in activity (1), (2) or (3). Activity (4) excludes application on road frontage areas where sprays or powders are applied by the residents or owners (or their representatives) of an adjoining property, when using the methods described in (1).

Activity (1) includes road frontage areas where sprays or powders are applied by the residents or owners (or their representatives) of an adjoining property using the above methods, but excludes any other application in public areas or alongside public roadways as addressed in activity (4).

Public areas include areas to which the public generally have unrestricted access, such as:

- *roadsides and other access ways;*
- *public areas administered by local authorities, including car parks, parks, forest reserves, reserves and recreation areas;*
- *public areas administered by government departments, including car parks, parks, reserves and recreation areas, and other Crown estate;*
- *areas administered by sports clubs (sports fields, golf clubs etc.) or educational institutes (kohanga reo, kindergartens, schools, tertiary education facilities etc.); and*
- *areas associated with industrial or trade premises to which the public has unrestricted access.*

The application of agrichemical sprays and powders in public areas is permitted, subject to compliance with the stated conditions. The most important of these conditions is that the Principal Contractor responsible for the activity must hold a Registered Chemical Applicators' GROWSAFE Certificate and all employees spraying in these areas must hold a current Standard GROWSAFE Certificate, issued by the New Zealand Agrichemical Education Trust. Spraying without the required certificate requires a discretionary resource consent (Rule 23).

Activities (2) and (3) of Rule 1 relate to larger methods of spray application. This would normally relate to production land and trade and industrial premises (where the public have restricted access) and include the application of agrichemical sprays and powders on agricultural, horticultural, silvicultural, native forest lands and alongside railway tracks.

Rule 1 includes a series of conditions which must be complied with in order for the respective spraying or application of powders to be considered as permitted activities. This includes the condition that no agrichemical sprays

or powders are applied on or above a surface water body or any artificial watercourse unless the agrichemical is registered for use over water bodies. The rule permits spraying along the banks of water bodies and on the beds of dry water bodies, provided that only agrichemicals registered for that purpose are used, and subject to due regard being taken of the re-entry time for introducing water into channels, as specified by the manufacturer or in the most recent edition of the New Zealand Agrichemical and Plant Protection Manual. "Re-entry period" is defined in the definitions.

Rule 1 also requires that spray solutions are diluted and sprays and powders are applied strictly in accordance with the manufacturers' instructions and at concentrations not exceeding the manufacturers' label recommendations, and that sprays and powders are applied in a manner which does not cause or is not likely to cause adverse effects beyond the boundary of the property.

The rule also requires that the dilution or mixing of agrichemical sprays ***only*** *takes place at a distance of more than 20 metres from a surface water body, a bore, spring, tile drain or the coastal marine area. Mixing any closer than 20 metres is permitted so long as it is carried on an impermeable surface which is bunded to contain spillages or washwater, otherwise it is a discretionary activity and requires a discretionary resource consent.*

Notification to the Council in the event of the accidental discharge of agrichemical solutions or sprays to water will enable the Council to act quickly to mitigate or remedy the adverse effects caused by such an event.

A significant aspect of the rule is the requirement for public notification when agrichemical sprays and powders are applied using larger scale methods of application close to other properties (condition vii) This condition requires that ***written*** *notice be given to all adjacent properties or place of common public assembly (schools, halls, sports fields etc.), which is within 50 metres of the area to be sprayed or dusted with powder. Public notification can either be via direct notice to neighbouring properties as described above, or through public notification in a community, district or national newspaper. Notification must be given at least once a year, at the start of the year or at the beginning of the spray season.*

Public notification is not required when the written agreement of the owner or occupier of an adjacent property has been obtained that states that notification is not required. In such instances, spraying can be carried out without notification to the adjacent property owner/occupier until such time as the ownership or occupation of the neighbouring property changes, or the notice stating that public notification is not required is rescinded. It should be noted that notification is not required when the agrichemical spray application takes place with a manually pumped sprayer with a capacity of 20 litres or less, or when agrichemical powders are applied by hand.

The information required with the notification is outlined in the condition. The period when the sprays or powders are applied means the general time frame which can be reasonably predicted. For example, if a horticulturalist wishes to apply agrichemicals within 50 metres of a neighbour's property then the notice to the neighbouring property owner could state that "spraying will be undertaken between 6-10 am on Tuesday 9th, Wednesday 10th, or Thursday 11th of February, depending on weather conditions". It should be noted that the requirement for notification does not mean that approval is required from those people to whom notification is given. Failure to provide adequate notification, where required, makes spraying relating to the use of these larger scale methods a discretionary activity.

Condition (viii) calls for the use of spray diaries, regardless of the type of chemicals being applied in the same situations as spray plans are required. The relevant data must be entered into the spray diary on each occasion that agrichemicals are sprayed or dusted. The spray diary may be required for inspection by Council compliance officers.

Conditions (ix)-(xi) require the provision of signage where agrichemical spraying has occurred or is in progress in public areas. Signs must be placed in the immediate vicinity of the spraying. This requirement does not apply to the application of agrichemical sprays and powders on or beside public roads.

Where signs are required they must clearly indicate that spraying is in progress. The signs must be maintained in place until the re-entry period for the particular chemical has passed. The re-entry period is the time elapsed until it is safe for humans to enter a sprayed or dusted area with little possibility of suffering any adverse affects from the spraying. The re-entry times for chemicals are those specified on the product label or in the most recent edition of the New Zealand Agrichemical and Plant Protection Manual.

Where agrichemical spray or powder application occurs alongside public roads and other public thoroughfares, condition (xi) requires that vehicles associated with the spraying must display prominent signs (front and back) clearly indicating that spraying is in progress.

Rule 2 Aerial agrichemical spray and powder application

The discharge of contaminants into air in connection with:

(1) the aerial application of agrichemical sprays or powders;

is a **Permitted Activity**, provided it complies with the conditions below.

Conditions

The persons responsible for the activity shall ensure that:

(i) The pilot holds a current agrichemical rating (issued by the NZ Agrichemical Education Trust), and loaders and ground crew shall hold the Standard GROWSAFE Certificate (issued by the NZ Agrichemical Education Trust), endorsed "Aerial Application Ground Crew".

(ii) Spray solutions are diluted, and sprays and powders are applied, strictly in accordance with the manufacturers' instructions and at concentrations not exceeding the manufacturers' label recommendations.

(iii) No mixing or diluting of chemicals takes place within 20 metres of a surface water body, a bore, spring, tile drain or the coastal marine area, unless the mixing or diluting takes place on an impervious surface which is bunded to contain washdown water or spillages.

(iv) No agrichemical sprays or powders are discharged over a catchment with surface water that is managed for water supply purposes as identified in any regional plan or proposed regional plan.

(v) All practicable steps are taken to avoid release of agrichemical over other open surface water (see Definitions) or wetland of one hectare or more unless the agrichemical is registered for use over water bodies.

(vi) Written notice (either direct notification to individual properties or public notification) is given to all adjacent properties, and places of common public assembly (e.g., schools, kindergartens, offices, etc.) located within 300 metres of the area to be sprayed or dusted with agrichemical powder.

Such notification is to take place prior to the spraying, not less than once a year, at the beginning of the year or spray season.

Such notification is unnecessary if owners or occupiers of adjacent properties or places of public assembly agree in writing that notification **is not** required.

Notice must be in the form of a property spray plan and include details of:

(a) the property or part of property to be sprayed or dusted with powder;

(b) the periods (likely day(s), date(s) and time(s)) when the agrichemical sprays or powders will be applied;

(c) the crops or vegetation to be sprayed and a list of chemicals (with brand names) to be used;

(d) any safety precautions for third parties, as noted in the most recent edition of the New Zealand Agrichemical and Plant Protection Manual;

(e) a list of immediate neighbours, and their contact phone numbers;

(f) 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;

(g) the name and contact phone number of those carrying out the agrichemical application; and

(h) the equipment and method of application to be used.

(vii) A spray diary showing how the spray plan was implemented is maintained, and available for inspection, containing:

(a) date and time of spray/powder application;

(b) name and type of agrichemicals applied (including any additives);

(c) concentration and volume of spray/powder used ;

(d) weather conditions (including wind speed and direction);

(e) how notification requirements have been met; and

(f) details of any abnormal situation or incident, and any action taken, including any variations to the spray plan.

(viii) The Wellington Regional Council is notified immediately in the case of any emergency release, or accidental discharge.

(ix) Sprays and powders are applied in a manner which does not cause or is not likely to cause adverse effects beyond the boundary of the property.

Explanation: *Aerial application of agrichemicals (as defined in the Definitions section of this plan) is permitted provided the conditions are complied with. If the conditions cannot be met, the activity is discretionary and covered by Rule 23.*

Condition (i) requires that personnel involved in carrying out an aerial operation hold the appropriate qualifications.

Conditions (ii) and (iii) are also included in Rule 1 and address best practice in terms of following the label recommendations and preventing contamination of the environment.

If agrichemicals are to be aerially applied over public water catchments, a consent is required under Rule 23. The water bodies referred to in condition (v) are those which are readily visible from the air and can be avoided by the pilot.

A significant aspect of the rule is the requirement for public notification when agrichemical sprays and powders are applied close to other properties

*(condition vi). This condition requires that **written** notice be given to all adjacent properties or place of common public assembly (schools, halls, sports fields etc.), which is within 300 metres of the area to be sprayed or dusted with powder. Public notification can either be via direct notice to neighbouring properties as described above, or through public notification in a community, district or national newspaper. Notification must be given at least once a year, at the start of the year or at the beginning of the spray season.*

Public notification is not required when the written agreement of the owner or occupier of an adjacent property has been obtained that states that notification is not required. In such instances, spraying can be carried out without notification to the adjacent property owner/occupier until such time as the ownership or occupation of the neighbouring property changes, or the notice stating that public notification is not required is rescinded.

The information required with the notification is outlined in the condition. The period when the sprays or powders are applied means the general time frame which can be reasonably predicted. For example, if a horticulturalist wishes to apply agrichemicals aerially within 300 metres of a neighbour's property then the notice to the neighbouring property owner could state that "spraying will be undertaken between 6-10 am on Tuesday 9th, Wednesday 10th, or Thursday 11th of February, depending on weather conditions". It should be noted that the requirement for notification does not mean that approval is required from those people to whom notification is given. Failure to provide adequate notification, where required, makes spraying a discretionary activity.

Condition (vii) calls for the use of spray diaries, regardless of the type of chemicals being applied in the same situations as spray plans are required. The relevant data must be entered into the spray diary on each occasion that agrichemicals are sprayed or dusted. The spray diary may be required for inspection by Regional Council compliance officers.

The Council must be notified (condition (viii)) in the event of any accidental discharge or emergency load release to enable any necessary remedial measures to be undertaken.

Rule 3 Fumigation

The discharge of contaminants into air in connection with any process involving:

(1) the use of fumigants;

is a **Permitted Activity**, provided it complies with the conditions below**.**

Conditions

The person(s) responsible for the activity shall ensure that:

(i) there is no dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.

Explanation: *Rule 3 relates to discharges to air resulting from the use of fumigants. Rule 3 permits the discharge of contaminants to air resulting from fumigation, as long as it is in compliance with the stated conditions. Rule 3 applies regardless of whether fumigation is undertaken on domestic properties, industrial and trade properties, in rural settings or in specialised instances, such as fumigation relating to border control operations.*

Discharges which do not comply with the stated condition, are discretionary activities, covered by Rule 23.

Fumigation is also controlled by other regulations such as the Fumigation Regulations 1967. These regulate requirements such as notification and signage in varying ways depending on the fumigant used.

Users should also be aware of the "Draft Code of Practise for Fumigation" by the Pest Control Association of New Zealand, May 1997 (formal code of practice currently under preparation).

Rule 4 Agricultural effluent and other on-farm processes

The discharge of contaminants into air in connection with:

(1) the management of agricultural effluent, including, but not limited to, anaerobic and aerobic pond processes and over land flow and spray irrigation processes; and/or

(2) **[**buildings used to house animals or feedlots which are part of factory farms; and/or

(3) **]**other on-farm processes, such as the manufacture of silage, not otherwise covered by other rules;

is a **Permitted Activity**, provided it complies with the conditions below.

Conditions

The person responsible for the activity shall ensure that:

(i) there is no dust, odour, gas or vapour from the process, which is

noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.

Clause 2 of Rule 4 was inserted by Plan change 1 to the Regional Air Quality Management Plan 2003

Exclusion (a) of Rule 4 was deleted by Plan change 1 to the Regional Air Quality Management Plan 2003

Explanation: *Rule 4 permits the discharge of contaminants to air resulting from farming, as long as it does not emanate from factory farms, and is otherwise in compliance with the stated conditions. Rule 4 permits the discharge of contaminants to air associated with the discharge or processing of farm wastes, such as the treatment and spreading of dairy shed effluent. It also permits discharges to air from other on-farm activities, as long as they are not covered by other rules in this Plan.*

As an example, discharges to air resulting from, but not limited to extensive deer, sheep, cattle or pig farming are permitted activities as long as they comply with the stated condition. Proper management and regard to distances from neighbouring properties should ensure that discharges to air from on-farm processes do not result in any offensive or objectionable dust, odour, gas or vapour at or beyond the boundary of the property. Discharges to air from factory farms (intensive farming) are explicitly excluded from Rule 4 and require a discretionary activity resource consent, under Rule 23. Conditions on such consents would require good practice techniques for controlling odour and dust discharges. Adherence to the Pork Industry Board Code of Practice (1993) could be such a condition. Factory farms are defined in the Interpretation.

Rule 5 Processing of animal and plant matter

The discharge of contaminants into air from industrial or trade premises in connection with:

(1) any processing of animal or plant matter (including any process incidental to the cooking of food such as deep fat frying, oil frying, roasting, drying, curing by smoking, and the slaughter or skinning of animals);

is a **Permitted Activity**, provided it complies with the conditions below, and **excluding** discharges of contaminants to air arising from:

(a) the extraction, distillation or purification of animal or vegetable oils or fats;

(b) the rendering, reduction, drying or curing (other than by smoking) through application of heat to animal matter (including, but not limited to, feathers, blood, bone, hoof, skin, offal, whole fish, and fish heads and

guts) and like parts;

(c) the processing of skins, including fellmongery and tanning; or

(d) the drying of milk or milk products through the application of heat.

Conditions

The person(s) responsible for the activity shall ensure that:

(i) there is no discharge of smoke, particulates (including dust, fat and oil), odour, gas, vapour which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property; and

(ii) the discharge of contaminants to air is vented through a chimney(s) or vent(s) which discharge at a point(s) which, as far as practicable, avoids the adverse effects or potential adverse effects of downwash.

Explanation: *Rule 5 relates to discharges to air from the processing of animal or plant matter, such as by cooking, curing and smoking. This Rule applies to industrial or trade premises only, and includes processes undertaken in abattoirs, meat packaging plants, food manufacturing plants, fast food outlets, commercial kitchens and the like. Rule 5 permits the discharge of contaminants to air resulting from the processing of animal and plant matter, as long as it is not any of those activities noted in (a-d), and is in compliance with the stated conditions.*

Discharges from domestic premises are not covered by this rule but remain subject to the nuisance provisions of the Health Act 1956 (section 29). Discharges of contaminants to air from industrial or trade premises that are explicitly excluded by (a-d) in Rule 5 are discretionary activities which require a resource consent under Rule 23.

Rule 6 Small internal or external combustion engines, heating appliances and electrical generation plants

The discharge of contaminants into air in connection with any combustion process (other than discharges to air from mobile transport sources, which are not controlled by this Plan), involving:

(1) the use of an internal or external combustion engine, heating appliance or electrical generation plant(s) with a combined generation capacity of 2 MW or less (measured by the higher heating value of the input fuel);

is a **Permitted Activity**, provided it complies with the conditions below.

Conditions

The person(s) responsible for the activity shall ensure that:

(i) there is no discharge of particulates of a concentration greater than 250 mg/m³ (at STP), measured at the point of discharge;

(ii) there is no smoke, dust, odour, gas or vapour from the discharge, which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property;

(iii) where the generation capacity is 100 kW or less (measured by the higher heating value of the input fuel) the discharge shall be made at a point which as far as practicable avoids the adverse effects, or potential adverse effects, of downwash; or

where the generation capacity is greater than 100 kW (measured by the higher heating value of the input fuel) discharges must be through a chimney(s) which should terminate at least 3 metres above the level of any adjacent area to which there is general access; and

(iv) chimneys discharging the products of combustion are designed to ensure the uninterrupted vertical discharge of vapours.

Note: *The burning of materials explicitly excluded from Rule 19 is a discretionary activity. While an activity may appear to be permitted under Rule 6, it is a discretionary activity if it involves burning of one of the materials listed in Rule 19, e.g., use of untreated waste oil as a combustion fuel.*

Rule 7 Medium sized internal or external combustion engines, heating appliances and electrical generation plants

The discharge of contaminants into air in connection with any combustion process (other than discharges of contaminants to air from mobile transport sources, which are not controlled by this Plan) involving:

(1) the use of an internal or external combustion engine, heating appliance or electrical generation plant(s) with a combined generation capacity of more than 2 MW but not exceeding 5 MW (measured by the higher heating value of the input fuel);

is a **Controlled Activity**, provided it complies with the standards below.

Standards

The person(s) responsible for the activity shall ensure that:

(i) there is no discharge of particulates of a concentration greater than 250 mg/m³ (at STP), measured at the point of discharge; and

(ii) there is no smoke, dust, odour, gas or vapour from the discharge, which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.

Note: *The burning of materials explicitly excluded from Rule 19 is a discretionary activity. While an activity may appear to be controlled under Rule 7, it is a discretionary activity if it involves burning of one of the materials listed in Rule 19 e.g., the use of untreated waste oil as a combustion fuel.*

Control

The Wellington Regional Council shall exercise control over:

(a) the height and design of chimneys/discharge points (see Appendix 3);

(b) the taking and supplying of samples;

(c) the carrying out of measurements, samples, analyses, surveys, investigations or inspections, at the consent holder's expense;

(d) the provision of information to the Wellington Regional Council at specified times, at the consent holder's expense;

(e) compliance with monitoring, sampling and analysis conditions at the consent holder's expense; and

(f) the payment of administrative charges and financial contributions.

Explanation of Rules 6 and 7: *Rules 6 and 7 relate to the discharge of contaminants to air from small and medium scale internal or external combustion engines, heating appliances and electrical generation plants. Both rules apply to industrial or trade premises and other premises such as apartment blocks, office buildings, hotels, electrical generation plants, and domestic premises. The rules do not cover the discharge of contaminants from mobile transport sources.*

Both Rules 6 and 7 apply regardless of the fuel being used. Rule 6 permits discharges from facilities with a combined generation capacity of 2 MW or less (measured by the higher heating value of the input fuel), subject to compliance with the stated conditions. The discharge of contaminants from facilities with a generation capacity greater than 2 MW but less than 5 MW are covered by Rule 7 and are controlled activities, and again are subject to the stated conditions. Discharges of contaminants from facilities with a combined generation capacity equal to and greater than 5 MW are discretionary activities covered by Rule 23. Similarly, processes otherwise covered by Rules 6 and 7 which cannot meet the conditions, are discretionary activities and are also covered by Rule 23. The limits indicated in Rules 6 and 7 apply to the cumulative total heat released from a particular premises (based on the higher heating value of the input fuel).

Rule 7 deals with medium to large scale processes. These activities are controlled activities for which a resource consent must be obtained from the Council, because of the greater potential for adverse effects resulting from the discharges. Instead of explicit conditions relating to avoiding or minimising the adverse effects of downwash from the point of discharge, the Council has chosen to reserve its discretion about the height and design of the discharge point. The Council will establish the height and design of chimneys/discharge points based on guidelines for making such assessments, as detailed in Appendix 3. For larger discharges dispersion modelling work may be required to assess likely effects on surrounding areas.

The conditions require that discharges do not generally exceed an opacity of 20 percent, that there is no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP) measured at the point of discharge, that there are no noxious, dangerous, offensive or objectionable discharges. Rule 6, relating to smaller scale processes includes two further sets of conditions (conditions iii and iv) which are aimed at ensuring against fugitive emissions and minimising the adverse effects from downwash. These conditions have the added benefit of enabling greater ease of monitoring.

Rule 8 Small scale production and collection (including the refining, purification, and reforming) of biogas and the storage, transfer, and small scale flaring of hydrocarbons and biogas)

The discharge of contaminants into air from industrial or trade premises in connection with any:

(1) process involving the production and collection (including refining, purification, and reforming) of biogas produced by the anaerobic fermentation of waste at a rate less than 10 m³ per day;

(2) flaring of hydrocarbons and biogas at a combined rate of less than 2 MW; and/or

(3) storage or transfer of hydrocarbons and biogas;

is a **Permitted Activity**, provided it complies with the conditions below.

Conditions

The person(s) responsible for the activity shall ensure that:

(i) there is no discharge of particulates of a concentration greater than 250 mg/m³(at STP), measured at the point of discharge;

(ii) there is no smoke, dust or odour from the discharge which is offensive or objectionable at or beyond the boundary of the premises or property;

(iii) processes discharging contaminants to air noted in sections (1) and (2) above, discharge through a chimney(s) which terminate at least 3 metres above the level of any adjacent area to which there is general access;

(iv) ventilation pipes and storage tank pipes are designed to ensure the unimpeded vertical discharge of vapours displaced during transfer of liquids or during normal tank breathing; and

(v) there is no naked flame from flares visible at or beyond the boundary of the premises.

Explanation: *Rule 8 permits the discharge of contaminants to air in relation to the small scale production, storage, transfer, and small scale flaring of hydrocarbons and biogas, subject to the stated conditions. Rule 8 relates to discharges from industrial and trade premises only. It permits the discharge of contaminants to air from all activities described in (1)-(3). The actual production of hydrocarbons, including the refining, purification, and reforming of hydrocarbons and any other hydrocarbon and biogas processing not covered in (1)-(3), and where undertaken on a industrial and trade premises, is a discretionary activity requiring resource consent.*

All other discharges relating to the processing or handling of hydrocarbons or biogas on industrial or trade premises are discretionary activities under Rule 23. Therefore, the refining, purification, and reforming of hydrocarbons, other than biogas at rates of ***more than*** *10 m³ per day, is a discretionary activity covered by Rule 23. Similarly, the flaring of hydrocarbons and biogas at rates equal to or greater than 2MW is a discretionary activity, also covered by Rule 23.*

The conditions in Rule 8 require that there is no discharge of particulates of a concentration greater than 250 mg/m³ (at STP) measured at the point of discharge, and that there are no offensive or objectionable discharges. Conditions (iii) and (iv) are aimed at ensuring against fugitive emissions and minimising the adverse effects from downwash. These conditions also have the added benefit of enabling greater ease of monitoring discharges. Condition (v) requires that there be no naked flame visible at or beyond the boundary of the premises. Flames from flares must be shielded. Unshielded flares will require a discretionary resource consent, under Rule 23. Flaring involves burning off combustible gases which would otherwise pose a safety hazard.

Rule 9 Fuel conversion processes

The discharge of contaminants into air from industrial or trade premises in connection with:

(1) carbonising or gasification process involving natural gas, petroleum, oil

shale, coal, wood, or other carbonaceous material, including:

(a) pyrolysis or destructive distillation, regardless of whether the solid, liquid or gaseous products are being recovered; and

(b) gasification by partial combustion with air or oxygen or reaction with steam; and/or

(2) the production of solid fuels produced from waste by use of heat;

is a **Discretionary Activity**.

Explanation: *Rule 9 relates to discharges to air from fuel conversion processes. Rule 9 relates to fuel conversion processes involving both hydrocarbons and non-hydrocarbons.*

Rule 9 makes the discharge of contaminants to air from all fuel conversion processes, undertaken on industrial or trade premises, discretionary activities. Carbonisation involves the burning of materials (e.g., the production of charcoal) from wood. Destructive distillation refers to the distillation of solid materials, accompanied by their decomposition. This includes the production of coke from charcoal. Gasification processes introduce reacting gases into a reactor to encourage the formation of gaseous products and/or release heat within the reactor. Gasification reactions usually take place at higher temperatures than required for pyrolysis. For complete gasification, all of the solid is converted to a gas.

Pyrolysis is the process of heating an organic material in the absence of oxygen. No other material is introduced into the reactor system. This process causes large organic molecules to break down, as a result of high temperature, into smaller and more simple molecules. Pyrolysis can be used to produce acetone and methanol from wood. Processes involving the production of solid fuels, such as briquettes, are also discretionary activities and are covered by Rule 23. The production of solid fuels relates to activities such as the manufacture of briquettes from coal, which involves coal dust being compacted at high pressure and heated to form coal bricks.

Rule 10 Mineral extraction, and the sorting and storage of powdered or bulk products

The discharge of contaminants into air in connection with:

(1) sorting, storage and conveying (including loading and unloading) of fertiliser, grains, berries, coal, coke, wood chips, sawdust, wood shavings, timber and logs, bark, sand, soda ash, aggregates, live animals and other bulk products (whether in solid or liquid form, other than hydrocarbons which are covered by Rule 8); and/or

(2) the extraction, quarrying **[**and mining of minerals and the size reduction and screening of wood products and minerals**]**;

is a **Permitted Activity**, provided it complies with the conditions below, and **excluding** discharges of contaminants to air arising from processes involving:

(b) the pneumatic conveying of bulk materials.

Conditions

Permitted Activities shall comply with the following conditions:

(i) For the area shown as the Operational Port Area, included within the Wellington City District Plan, any discharge shall not result in odour, dust, gas or vapour which is noxious, dangerous, offensive or objectionable to such an extent that it has, or is likely to have, an adverse effect on the environment outside the Operational Port Area; and

(ii) For all other areas, any discharge shall not result in dust, odour, gas or vapour, which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.

Clause 2 of Rule 10 was substituted for the original clause by Plan change 1 to the Regional Air Quality Management Plan 2003

Exclusion (a) of Rule 10 was deleted by Plan change 1 to the Regional Air Quality Management Plan 2003

Explanation: *Rule 10 covers discharges to air from processes involving the extraction of minerals or the sorting and/or storage and/or conveying of solid bulk products (e.g., fertiliser, grains) and liquids (e.g., nitric acid). It also covers the extraction, quarrying, size reduction and screening of minerals. Rule 10 relates to all such processes regardless of whether or not they take place as part of industrial or trade processes.*

The Operational Port Area is an area where considerable transfer and storage of bulk goods occurs. Part of the transfer occurs across the mean high water springs line, so the wording of the rule for this area is similar and complementary to that in the Regional Coastal Plan. This rule applies only to discharges to air resulting from activities occurring on the landward side of mean high water springs, while the Regional Coastal Plan controls discharges to air resulting from activities occurring on the seaward side of mean high water springs, that is, in the Coastal Marine Area.

Discharges of contaminants to air relating to the extraction, quarrying, mining, size reduction and screening of minerals which are part of industrial or trade processes will require a resource consent under Rule 23 unless they take place within a river bed. Similarly, the pneumatic conveyancing of

powdered and bulk materials, whether or not they occur on an industrial or trade premises, will also require a discretionary resource consent under Rule 23. If the discharges from trade or industrial mineral processing (as described in (a)) take place within a river bed, then they are permitted by the rule. Note that any disturbance of a river bed, such as for gravel extraction, requires a land use consent unless it is specifically allowed by a rule in the Regional Freshwater Plan.

Rule 10 permits the storage of bulk material, subject to the specified conditions, regardless of whether such storage is under cover or in the open. This rule does not apply to the vehicular transportation of bulk materials, such as in trucks on public roads or by rail.

Rule 11 Mineral drying and heating (including glass and mineral fibre manufacture)

The discharge of contaminants into air from an industrial or trade premises in connection with any process involving:

(1) the drying or heating of minerals, where the generation capacity is equal to or less than 100 kW (measured by the higher heating value of the input fuel);

is a **Permitted Activity**, provided it complies with the conditions below, and **excluding** any discharges of contaminants to air arising from processes involving:

(a) the manufacture of portland or similar cements and pozzolanic materials;

(b) the sintering, calcining or roasting of metal ores in preparation for smelting, the burning of calcium or calcium-magnesium carbonates to produce calcium or magnesium oxides of hydroxides, the expansion or exfoliation of minerals, or the dehydration of gypsum;

(c) the making of glass, frit, mineral wool or glass fibre, including the application of any surface coating to the fibres;

(d) the manufacture of hot-mix asphalt paving mixes, including manufacture using mobile or portable asphalt plants; or

(e) the emission of any hazardous air pollutants as listed in Appendix 1.

Conditions

The person(s) responsible for the activity shall ensure that:

(i) there is no discharge of particulates greater than 250 mg/m³ (at STP), measured at the point of discharge;

(ii) there is no smoke, dust, odour, gas or vapour from the process, which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property; and

(iii) the discharge of contaminants from drying or heating of minerals, must be vented through a chimney(s) which terminates at least three metres above the level of any adjacent area to which there is general access.

Explanation: *Rule 11 relates to discharges to air from processes involving the drying and heating of minerals. This rule covers discharges from industrial and trade processes only. Rule 11 permits the discharge of contaminants to air from the drying or heating of minerals where the generation capacity is equal to or less than 100 kW (measured by the higher heating value of the input fuel), and subject to compliance with the stated conditions.*

Those processes which involve a generation capacity of more than 100 kW or which are otherwise explicitly excluded from Rule 11, and are related to industrial and trade processes, require a resource consent under Rule 23.

The stated conditions in Rule 11 require that there is no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP) measured at the point of discharge, and that there are no offensive, objectionable or noxious discharges.

Rule 12 Metallurgical processes

The discharge of contaminants into air in connection with:

(1) any production or processing of metals (such as the melting of any metal or metal alloy, including secondary melting and the sweating of scrap metal) where the aggregated melting capacity is **less than 100 kg/hour**;

is a **Permitted Activity**, provided it complies with the conditions below, and **excluding** any discharges of contaminants to air arising from processes involving:

(a) the extraction, including electrochemical methods of reduction, of any metal or metal alloy from its ore, oxide, or other compound;

(b) the making of steel or the refining of any metal or modification of any alloy in a molten state by blowing with gases or by the addition of reactive chemicals of volatile fluxes and the use of oxygen lancing in scaring and similar operations;

(c) the emission of any hazardous air pollutants listed in Appendix 1;

(d) hot-dip galvanising or other processes for the protection of surfaces by metal coating using fluxes;

(e) the desulphurisation of iron, steel or any ferrous alloy;

(f) the heating, in a furnace or other appliance, of any metal or metal alloy for the purpose of removing grease, oil or any other non-metallic contaminant (including such operations as the removal by heat of plastic or rubber covering from cables); or

(g) the melting, including secondary melting and the sweating, of lead, at a rate exceeding 25 kg/hour.

Conditions

The person(s) responsible for the activity shall ensure that:

(i) there is no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP), measured at the point of discharge;

(ii) there is no smoke, dust, odour, gas or vapour from the process, which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property; and

(iii) the discharge to air is vented through a chimney(s) or vent(s) which discharge at a point which terminates at least 3 metres above the level of any adjacent area to which there is general access.

Explanation: *Rule 12 relates to the discharge of contaminants to air involving the processing of metals. Rule 12 relates to all instances where contaminants are discharged to air from the processing of metals, regardless of whether undertaken as part of an industrial or trade process. The Rule permits the production and processing of metals at a rate where the aggregated melting capacity is less than 100 kg/hour, subject to compliance with the stated conditions. This includes the melting of any metal or metal alloy, including secondary melting and the sweating of scrap metal. Secondary melting involves the melting of processed ore. The sweating of scrap metal is a process involving the heating, usually of metal components, to extract valuable metals.*

Rule 12 explicitly excludes a range of metal processing activities from the permitted activity class. Those activities listed in sub-sections (a)-(g) require a resource consent under Rule 23, regardless of where they are undertaken or the aggregated melting capacity.

The conditions in Rule 12 require that there is no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP), measured at the point of discharge, that there are no offensive, objectionable or noxious discharges, and that discharges are vented through a chimney(s) or vent(s).

Rule 13 Chemical processes

The discharge of contaminants into air from an industrial or trade premises in connection with:

(1) any process involving the manufacture or other processing of chemicals;

is a **Permitted Activity**, provided it complies with the conditions below, and **excluding** any discharges of contaminants to air arising from:

(a) the emission of any hazardous air pollutants listed in Appendix 1;

(b) any electroplating process;

(c) the bodying of oils or manufacture or reaction of monomers for production of synthetic resins, varnishes, and plastics;

(d) the production of soap, grease, detergents, and surface active agents;

(e) the synthesis or extraction of organic chemicals, including formulation of agrichemicals, plant hormones, and like toxic organic compounds;

(f) the production of inorganic chemicals, including concentration of acids and anhydrides, ammonia, and alkalis;

(g) the production of synthetic fertilisers, including granulation of single or mixed fertilisers; or

(h) solvent recovery processes.

Conditions

The person(s) responsible for the activity shall ensure that:

(i) there is no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP), measured at the point of discharge;

(ii) there is no smoke, dust, odour, gas, or vapour from the process, which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property; and

(iii) the discharge to air is vented through a chimney(s) or vent(s) which discharge at a point which terminates at least three metres above the level of any adjacent area to which there is general access (i.e., ground level, roof areas or adjacent openable windows).

Explanation: *Rule 13 relates to the discharge of contaminants to air from processes involving the manufacture or processing of chemicals. Rule 13 applies to discharges from industrial or trade premises only. This Rule permits processes relating to chemical manufacture, subject to compliance with the specified conditions.*

Rule 13 explicitly excludes a range of chemical processing activities from the permitted activity class. These activities, listed in (a)-(h), when undertaken as part of an industrial or trade process, are discretionary activities, requiring a resource consent under Rule 23.

The conditions in Rule 13 require that there is no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP), measured at the point of discharge, that there are no offensive, objectionable, dangerous or noxious discharges, and that discharges are vented through a chimney(s) or vent(s).

Rule 14 Use of small quantities of di-isocyanates, or organic plasticisers

The discharge of contaminants into air in connection with any process involving:

(1) the use of substances containing di-isocyanates or organic plasticisers at a

rate of less than 10 litres (or10 kg) per day and also at a rate of less than 3 litres (or 3 kg) per hour;

is a **Permitted Activity**, provided the activity complies with the conditions below.

Conditions

The person responsible for the activity shall ensure that:

(i) there is no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP), measured at the point of discharge;

(ii) no contaminant is discharged from the process, that is noxious, dangerous, offensive, or objectionable at or beyond the boundary of the property; and

(iii) for coating processes undertaken indoors, the discharge of contaminants to air is vented with an unimpeded vertical flow, through a chimney(s) or vent(s) which terminates at least three metres above the level of any adjacent area to which there is general access (i.e., ground level, roof areas or adjacent openable windows) and as far as practicable from any boundary with a residential property.

Explanation: *Rule 14 relates to discharges to air from processes involving the use of substances containing di-isocyanates and organic plasticisers. Rule 15 permits discharges to air associated with the use of less than 10 litres (or 10 kg) per day and also less than 3 litres (or 3 kg) per hour of substances containing di-isocyanates or organic plasticisers, subject to compliance with the stated conditions. The use of 10 litres (or 10 kg) or more per day or 3 litres (or 3 kg) or more per hour of these substances is a discretionary activity covered by Rule 23.*

Di-isocyanates are used in the production of polyurethane materials. In New Zealand, the manufacture of flexible and rigid polyurethane foam accounts for the bulk of isocyanate use. Use of polyurethane paints and lacquers also involves significant amounts of di-isocyanate. Other products using isocyanates are urethane rubbers, adhesives and binders. Plasticisers determine the flexibility of plastics. For example, plastic bags contain a high proportion of plasticisers whereas a plastic pen contains a relatively small amount of plasticiser.

The conditions in Rule 14 require that there is no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP), measured at the point of discharge, and that there are no noxious, dangerous, offensive, or objectionable discharges.

Rule 15 Coating processes, including spray painting

The discharge of contaminants into air in connection with coating processes (including spray painting) involving:

(1) the spray application of coating materials (including paint, paint solvents, varnish, lacquer, dyes, metal oxide coatings, adhesive coatings, elastomer coatings, stains, and polishes) at a rate of consumption not exceeding 30 litres (or 30 kg) per day and also not exceeding 3 litres (or 3 kg) per hour on a coating premises;

(2) the spray application of coating materials (including paint, paint solvents, varnish, lacquer, dyes, metal oxide coatings, adhesive coatings, elastomer coatings, stains, and polishes) at any rate of consumption where the application is from a mobile source;

(3) the stoving of enamel or baking and drying of any other coating material where the rate of heat input into the process is less than 500 kW (measured by the higher heating value of the input fuel); or where 500 kW or less of electrical energy is used; and/or

(4) materials that do not contain di-isocyanates or organic plasticisers;

is a **Permitted Activity,** provided the activity complies with the conditions below.

Conditions

The person responsible for the activity shall ensure that:

(i) there is no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP), measured at the point of discharge;

(ii) no contaminant is discharged from the process, that is noxious, dangerous, offensive or objectionable, at or beyond the boundary of the property;

(iii) for coating processes undertaken indoors, the discharge of contaminants to air is vented with an unimpeded vertical flow, through a chimney(s) or vent(s) which terminates at least three metres above the level of any adjacent area to which there is general access (i.e., ground level, roof areas or adjacent openable windows) and as far as practicable from the boundary of any residential property.

Note: *The painting of roadways (road marking) and bridges is a permitted activity covered by Rule 22.*

Explanation: *Rule 15 relates to the discharge of contaminants to air resulting from coating processes, including spray painting, subject to compliance with the specified conditions. This Rule applies regardless of whether or not the coating process is undertaken as part of a industrial or trade process. Coating processes include the spraying of paints and lacquers,*

and coating with electrostatic powders. Rule 15 does not apply to discharges to air associated with the application of substances containing di-isocyanates or organic plasticisers. These discharges are either permitted under Rule 14, subject to conditions; otherwise they are discretionary activities under Rule 23. Rule 15 does not cover the painting of roadways (road marking) and bridges, which are permitted activities (Rule 22).

Spray coating processes include processes involving the spray application of paints, paint solvents, varnish, lacquer, dyes, metal oxide coatings, adhesive coatings, elastomer coatings and stains and polishes. For the application phase of the coating process, this rule only relates to the application of these substances by methods involving spraying. Application of paints by paint brushes is a permitted activity regardless of the size of the area being painted, because this activity does not result in the discharge of contaminants to air of any consequence. Thirty litres of paint, if applied by an airless spray unit (no atomising air), can cover approximately 480 m²-540 m². An air assisted spray unit can cover approximately 300 m². The spraying of paints or lacquers in suspension can result in problems of over-spray and dust, and solvent fumes.

Electrostatic powder coating is a process whereby dry particles are charged electrostatically to a high voltage and then deposited upon the surface of an earthed object. The primary difference with other forms of spray painting is that powders are applied as fine particles in a dry condition, whereas paint is sprayed as a suspension in a solvent base. While electrostatic powder coating does not cause the same types of problems as spraying, it does result in the discharge of fine powders, which can be injurious to humans if inhaled. Wet paint can be applied electrostatically, through some over-spraying still occurs. Electrostatic coating can also give rise to dust explosions.

Stoving, baking or drying of enamel or other coating material is necessary to ensure that the enamel, paints or lacquers are hardened and fixed to the surface of an object. Stoving, baking and drying of enamel or other substances typically occurs in the ceramics and metal production/finishing industries, such as in the finishing of stoves.

Processes involving the application of 30 litres (or 30 kg) or more of coating materials per day and/or 3 litres (or 3 kg) or more per hour, and stoving, baking or drying related to any coating process where 500 kW or more of heat is released, are discretionary activities under Rule 23.

The conditions in Rule 15 require that there is no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP), measured at the point of discharge, and that there are no noxious, dangerous, offensive, or objectionable—discharges of contaminants beyond the boundary of the property. Condition (iii) is aimed at ensuring against fugitive emissions and minimising the adverse effects from downwash.

Rule 16 Abrasive blasting processes - both mobile and stationary

The discharge of contaminants into air in connection with:

(1) abrasive blasting processes;

is a **Permitted Activity,** provided it complies with the following conditions, and **excluding** any discharges of contaminants to air arising from:

(a) dry abrasive blasting.

Conditions

The person(s) responsible for the activity shall ensure that:

(i) there is no over-spray, dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, or beyond 50 metres of the discharge when sited on public land;

(ii) all reasonable steps are taken to ensure minimal discharge of contaminants to water bodies;

(iii) so far as is practicable, all debris and used blasting materials is collected; and

(iv) all collected debris are stored and disposed of safely, preferably to a landfill holding the appropriate consents.

Note: *Mobile abrasive basting activities can be considered for a "regional resource consent" (see section 5.1.4), allowing the operator to work throughout the Region subject to appropriate conditions.*

Explanation: *Rule 16 relates to the discharge of contaminants from abrasive blasting processes, whether or not undertaken with a mobile blasting unit. This Rule applies regardless of whether abrasive blasting is undertaken as part of an industrial or trade process. It applies also regardless of whether the blasting is from a mobile or stationary source. Abrasive blasting involves the projection of water (wet abrasive blasting) or sand and other materials (dry abrasive blasting) under high pressure for the purpose of cleaning or preparing surfaces.*

Rule 16 permits wet abrasive blasting, subject to compliance with the specified conditions. Dry abrasive blasting is a discretionary activity covered by Rule 23, regardless of whether or not it is associated with an industrial or trade process, and regardless of whether it is from a mobile or stationary source.

Rule 17 Cooling towers/ventilation

The discharge of contaminants into air from an industrial or trade premises in connection with:

(1) water vapour plumes or steam from cooling towers and air-cooled heat exchangers; and/or

(2) forced air ventilation from indoor working spaces, unless otherwise covered by other rules in this Plan;

is a **Permitted Activity**, provided it complies with the conditions below.

Conditions

The person(s) responsible for the activity shall ensure that:

(i) there is no dust, odour, gas and vapour from the process, which is noxious, dangerous, offensive or objectionable, at or beyond the boundary of the property; and

(ii) exhausts are located to avoid cross-contamination with air intakes in the same building and adjacent buildings.

Explanation: *Under Rule 17 discharges from cooling towers of water vapour-based plumes or steam, air from air-cooled heat exchangers and forced air ventilation from indoor working spaces, are permitted activities, subject to compliance with the stated conditions. This Rule relates to discharges to air from cooling towers and air cooled heat exchangers and from forced air ventilation from indoor spaces such as offices and factories. Rule 17 applies to discharges to air emanating from industrial or trade premises only.*

The conditions in Rule 17 require that there are no dangerous, offensive, objectionable or noxious discharges. Condition (ii) requires that, when deciding on a location for exhausts for cooling towers, air-cooled heat exchangers and other forced air ventilation exhausts, due regard is had to the effects on air intakes of neighbouring properties.

Rule 18 Burn-off associated with land clearance

The discharge of contaminants into air in connection with burn-off associated with land clearance operations

is a **Permitted Activity**, provided it complies with the conditions below.

Conditions

The person(s) responsible for the activity shall ensure that:

(i) all reasonable steps are taken to minimise the reduction in visibility in any adjacent amenity areas, roads, places of public assembly, or any place, area or feature of special significance to tangata whenua; and

(ii) all reasonable steps are taken to minimise adverse environmental effects on or beyond the boundary of the property by ensuring burning takes place at such a time, in such a location and in such conditions that allow this to be achieved.

***Note**:Please refer to the Regional Soil Plan for the Wellington Region for provisions relating to the actual clearance of land.*

Rule 19 Burning of combustible matter

The discharge of contaminants into air (other than discharges of contaminants to air from mobile transport sources, which are not controlled by this Plan) in connection with:

(1) the on-farm burning of empty, triple-rinsed, plastic agrichemical containers that do not have halogen or phosphorus components and were sourced at that farm;

(2) the cremation of human remains other than at an approved crematorium, when authorised by the Medical Officer of Health under the Cremation Regulations 1973; or

(3) the combustion of other materials;

is a **Permitted Activity**, provided it complies with the conditions below, and **excluding** any discharges of contaminants to air arising from:

(a) the burning of plastics, unless specifically allowed by clause (1) of this rule;

(b) the burning of municipal wastes, coated or covered metal, rubber, untreated waste oil, oil sludge, pitch, stores of paint and motor vehicles;

(c) the cremation of human remains at a crematorium approved under the Crematorium Regulations 1973;

(d) the burning of quarantine and medical wastes;

(e) the burning of Copper-Chrome-Arsenic (CCA) treated timbers;

(f) the remediation of asphalt surfaces ("tar burning"); or

(g) the combustion of waste material which **[**emits any of the**]** hazardous air contaminants listed in Appendix 1.

Conditions

The person(s) responsible for the activity shall ensure that there is:

(i) no smoke, dust, odour, gas or vapour from the process, which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the premises or property; and

(ii) empty plastic agrichemical containers are burned in a purpose built incinerator.

Explanation of Rules 18 and 19: *Rules 18 and 19 relate to the discharge of contaminants to air from the combustion of materials most commonly carried out for waste management purposes. Rules 18 and 19 apply in all instances, regardless of whether the burning is undertaken in association with an industrial or trade process.*

Rule 18 permits discharges to air resulting from burn-offs associated with land clearance operations, subject to compliance with the stated conditions. The Rule applies regardless of whether a field of stubble is being burnt or whether the material to be combusted has been heaped into piles for burning. Rule 18 applies both in urban and rural areas.

Rule 19 relates to discharges of contaminants to air from the burning of combustible matter, whether or not an activity is a permitted under other Rules in this Plan. Rule 19 makes such discharges a permitted activity, but lists processes that are excluded and therefore require a resource consent under Rule 23.

Individuals or organisations wanting to dispose of any of those substances or materials explicitly excluded from the Rule must either recycle these materials or dispose of them to an approved landfill or other approved hazardous waste management facility (i.e., a facility which already holds the appropriate consents). Alternatively, an application for resource consent can be made to the Council to burn such material. Rule 19 does not control discharges from mobile transport sources.

For activity (1), i.e., the on-farm burning of empty plastic agrichemical containers, the Council will accept as compliance with condition (ii), burning practices undertaken in accordance with the guidelines included in Appendix 4. Appendix 4 is sourced from the British Agrichemical Association's guidelines for agrichemical container incineration (BAA, 1998), and from the Agrichemical Users' Code of Practice (New Zealand Standard 8409:1995). The Appendix describes the triple rinsing procedure and provides a design for appropriate burning apparatus. It also provides other good practice guidelines to ensure sae burning and minimal adverse effects.

Plastic agrichemical containers composed of High Density Polyethylene may be labelled with a recycling triangle (△) with 2 inside it. These plastics can be burned under activity clause (1). Containers labelled with a recycling triangle (△) with 1 or 3 inside it are made from plastics that contain halogens. Burning of plastics that contain halogens is not allowed under this rule. While the Council supports reuse and/or recycling of plastics, used agrichemical containers cannot currently be recycled or reused for another purpose, because of potential adverse effects of residual agrichemicals.

*Note that Rule 19 does not address the disposal of unused agrichemicals. Refer to the Agrichemical Users' Code of Practice (NZS 8409:***[***1999***]***), or seek advice from chemical suppliers and local district or city councils before disposing of any excess agrichemicals.*

In Rule 19, the words added in square brackets as part of Rule 19 (g) and the date in square brackets was substituted for the original date by Plan Change 1 to the Regional Air Quality Management Plan 2003

Rule 20 Landfilling and composting

The discharge of contaminants into air in connection with any:

(1) landfilling and composting;

(2) sites which have been used in the past for landfilling (closed landfills);

is a **Permitted Activity**, provided it complies with the conditions below, and **excluding** any discharges or contaminants to air arising from:

(a) sites where waste materials are accepted from sources other than the property on which the landfilling or composting takes place; and/or

(b) waste transfer stations.

Conditions

The person(s) responsible for the activity shall ensure that:

(i) there is no dust, gas (including carbon dioxide and methane gases), or odour from the process which is offensive, objectionable, noxious, or dangerous at or beyond the boundary of the premises or property.

Explanation: *Rule 20 relates to all discharges to air from landfilling and composting processes. This includes discharges from landfills which no longer receive material. This Rule applies regardless of whether landfilling is undertaken on an industrial or trade premises or not. However, the Rule only permits landfilling and composting where waste or organic materials are*

landfilled or composted on the property on which the wastes or organics were generated. Such processes must comply with the condition to be permitted.

Landfilling and composting operations which involve the processing of waste or organic material accepted from sources other than the property on which the landfilling or composting takes place are discretionary activities covered by Rule 23. This includes municipal and private landfilling and composting operations, and related waste transfer stations.

Rule 21 Sewage and trade waste conveyance, treatment and disposal

The discharge of contaminants into air in connection with:

(1) sewage and liquid or liquid-borne trade waste conveyance, treatment and disposal (including the operation of septic tanks and soakage pits);

is a **Permitted Activity**, provided it complies with the conditions below, and **excluding** any discharges of contaminants to air arising from processes involving:

(a) the treatment of sewage and/or liquid or liquid-borne trade wastes off the site on which it was generated (e.g., municipal sewage treatment).

Conditions

The person(s) responsible for the activity shall ensure that:

(i) there is no discharge of odour, gas, vapour or aerosol which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.

Explanation: *Rule 21 permits discharges to air in connection with the conveyance, treatment and disposal of sewage and liquid and liquid-borne trade wastes. This rule permits the discharge of contaminants to air from septic tanks and soakage fields as well as the discharge of contaminants to air resulting from the conveyancing of sewage through sewerage systems, including the pumping stations. This rule is not intended to cover the discharge of contaminants to air from the movement of wastes by vehicular transport. Such discharges from mobile sources are not controlled by this Plan. Discharges to air that are permitted by this rule must comply with the condition that they do not result in the discharge of odour, gas, vapour or aerosol which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.*

The discharge of contaminants to air arising from the treatment of municipal sewage or liquid or liquid-borne trade wastes is explicitly excluded from Rule 21 and requires a resource consent under Rule 23.

Rule 22 Miscellaneous processes

Notwithstanding any provisions in Rules 1-21, the discharge of contaminants into air in connection with any industrial or trade processes associated with:

(1) vehicle engine maintenance and servicing.

(2) dry cleaning;

(3) laboratory fume cupboards;

(4) tunnels and car parks;

(5) welding;

(6) spray painting of roads and bridges;

(7) road construction and paving activities (including reconstruction), **other than** the manufacture of hot-mix asphalt paving mixes, including moveable asphalt plants, and the remediation of asphalt surfaces ("tar burning"); and/or

(8) incidental equipment and compressor stations necessary for the operation of natural gas transmission pipe lines;

is a **Permitted Activity**, provided it complies with the conditions below.

Conditions

The person(s) responsible for the activity shall ensure that:

(i) there is no discharge of particulate matter, smoke, odour, gas, aerosols or vapours from the process, which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.

Explanation: *Rule 22 covers some specified discharges from processes or activities not explicitly covered by Rule 1-21. Rule 22 relates to discharges to air from industrial and trade premises only. Those activities listed in Rule 22 are permitted as long as they comply with the two conditions. These activities are permitted regardless of any of the provisions in Rules 1-21.*

Discharges to air from the manufacture of hot-mix asphalt paving mixes, including moveable asphalt plants, and the remediation of asphalt surfaces ("tar burning") are discretionary activities under Rule 23, because they are specifically excluded from Rule 19.

Rule 23 General rule (Discretionary Activities)

The discharge of contaminants into air from:

(1) any process or activity explicitly excluded from Rules 1-22; or

(2) any process or activity covered by Rules 1-22, but which does not meet the conditions attached to those rules; or

(3) any process or activity on an industrial or trade premises not covered by Rules 1-22;

is a **Discretionary Activity**.

Explanation: *Rule 23 details the instances in which processes involving the discharge of contaminants to air are discretionary activities. This includes instances where processes or activities relating to the discharge of contaminants into the air, regardless of whether or not from an industrial or trade premises, are explicitly excluded from Rules 1-22. Furthermore, any process or activity covered by Rules 1-22 but which does not meet the specified conditions, also requires a resource consent.*

Finally, Rule 23 also covers all processes or activities undertaken on an industrial or trade premises but which are not covered by Rules 1-22. Non-industrial and non-trade processes, such as processes undertaken on domestic premises, that are not covered by Rules 1-22, are allowed as of right, as specified under section 15(2) of the Act. These activities are permitted unconditionally. No resource consents are required and there are no conditions.

5.3. Other Matters Related to Resource Consents

5.3.1 Information to be submitted with a resource consent application

All applicants for a resource consent to carry out an activity (discharge of contaminants into air) under the provisions of this Plan shall submit the following information with the resource consent application:

(1) a description of the activity for which consent is sought, including the methods and processes to be used. The description should identify the location(s) of the discharge(s) by way of a map, the correct NZMS reference, and the valuation roll number;

(2) the site characteristics of the discharge location, including any relevant topographical and meteorological information;

(3) the nature of the discharge (including contaminants, quantity, frequency, duration, hazardous properties, etc.);

(4) details of any equipment placed, or proposed to be placed, on discharge points to remove/alter the contaminants being discharged to air, and any similar such environmental control equipment;

(5) a description of the consultation undertaken in relation to the application, and the outcomes of that consultation;

(6) an assessment of any actual or potential effects that the activity may have on the environment, and the ways in which any adverse effects may be mitigated. This assessment shall be in such detail as corresponds with the scale and significance of the actual or potential effects that the activity may have on the environment, and shall be prepared in accordance with the Fourth Schedule of the Act.

In particular, the assessment of environmental effects shall focus on:

(a) any adverse effects on:

- human health;
- amenity values;
- resources or values of significance to the tangata whenua;
- surface water, groundwater;
- soil, plants, animals and ecosystems; and
- the global environment;

(b) any cumulative effects which may arise over time or in combination with other effects; and

(c) any effects of low probability or high potential impact;

(7) any alternative methods of disposal or discharge locations which have

been considered;

(8) information on how equipment controlling the discharge will be operated and maintained and what contingency plans are in place in the event of equipment failure;

(9) any proposed monitoring provisions;

(10) a statement specifying all other resource consents that the applicant may require from any consent authority in respect of the activity to which the application relates, and whether or not the applicant has applied for such consents; and

(11) any additional information that may be required in relation to the application as specified in sections 5.3.2 and 5.3.3 below.

Applicants should contact the Council to discuss the scope and contents of any other additional information that may be required.

5.3.2 Further information - modelling requirements

Applicants should consult the Council at an early stage in preparing an application to determine whether dispersion modelling (associated with the assessment in section 5.3.1(2) above) is necessary.

If dispersion modelling is required, the applicant will be required to, where relevant, model the ground level concentrations of any contaminant present, or likely to be present, in significant quantities in the discharge in accordance with Policy 4.2.15 of this Plan and the NIWA (1996) guidelines. The following information is then required with the resource consent application:

(1) a brief discussion of the model used;

(2) the source emission data used in the modelling procedure;

(3) a description of the contaminants in the discharge;

(4) a description of the meteorological data input to the model;

(5) a list of the default settings used in the modelling procedure;

(6) tables and graphical presentations of the predicted maximum ground level concentrations for each contaminant at regular and appropriate intervals from the discharge points;

(7) a comparison of the predicted maximum ground level concentrations with the appropriate guideline levels;

(8) a discussion of the results and conclusions with respect to both minor and significant adverse effects on the environment; and

(9) a justification for any deviations from the modelling procedures set out in the NIWA (1996) guidelines.

***Note**: The Council retains the discretion to waive these requirements for any application if it considers that the requirements are unduly onerous or inappropriate for the scale and nature of the proposed activity, or if other methods of assessment of effects on the environment are more appropriate for the activity in question.*

5.3.3 Further information - the application of agrichemical sprays and powders

All applications for a resource consent to spray agrichemicals shall submit the following information with the application:

(1) standard requirements (1)-(10) in section 5.3.1 above;

(2) evidence of completion, by all persons applying agrichemicals, of the relevant GROWSAFE course, administered by the New Zealand Agrichemical Education Trust;

(3) a statement on the means proposed for preventing or minimising:

  (a) any potential adverse effects on non-target areas resulting from spray drift; and

  (b) any potential adverse effects resulting from contaminants entering water; and

(4) an assessment of alternative methods of control.

5.3.4 Circumstances in which the powers in section 92 may be used

The powers under section 92 of the Act may be used if insufficient information is provided on any matter set out in sections 5.3.1-5.3.3 above.

In particular, additional information may be required in the form of dispersion modelling if there is no other suitable information to determine the effects of the discharge.

6. Methods (other than Rules)

6.1 General Ambient Air Quality Management

The Wellington Regional Council will:

6.1.1 Develop and implement a pilot programme for monitoring ambient air quality in the Wellington Region, within three years of the adoption of this Plan, which includes:

(a) determining areas of concern;

(b) identifying (or confirming) ambient air quality indicators for each of the pilot areas;

(c) confirming the proposed objectives of the monitoring programme (see Method 6.1.2); and

(d) ensuring appropriate site selection for the final monitoring programme (see Method 6.1.2).

This method implements Policies 4.2.1, 4.2.2, and 4.2.3 in particular.

6.1.2 Develop and implement an ambient air quality monitoring programme, within four years of the adoption of this Plan, sufficient to provide appropriate information on which to base future air quality management decisions.

This method implements Policies 4.2.1, 4.2.2, and 4.2.3 in particular.

6.1.3 Develop a regional emission inventory, within three years of the adoption of this Plan, that is appropriate to the Region's needs and which identifies the sources, scale and distribution of discharges of contaminants to air.

This method implements Policies 4.2.1,4.2.2 and 4.2.3 in particular.

6.1.4 Assess the influence of meteorology and topography on the Region's ambient air quality and their effects on the dispersion of contaminants discharged from point sources.

This method implements Policy 4.2.3 in particular.

6.1.5 Develop a regional meteorological data base which:

(1) is appropriate to monitor climate changes and ambient air quality; and

(2) allows the prediction of the environmental effects of emissions from existing and proposed activities.

This method implements Policy 4.2.3 in particular.

6.1.6 Advocate and support the development of:

(a) national modelling guidelines and maximum ground level concentrations for contaminants commonly found in discharges and for contaminants with potentially significant effects on the environment; and

(b) national guidelines for sampling, characterising and measuring odour.

This method implements Policy 4.2.3 in particular.

6.1.7 Ensure that complaints relating to the discharge of contaminants to air are registered and appropriately dealt with, including where necessary, forwarding relevant information to other authorities for their action.

This method implements Policy 4.2.3 in particular.

6.1.8 Promote the use of odour diaries, where appropriate, to record complaints about potentially odorous activities.

This method implements Policy 4.2.3 in particular.

6.1.9 Prepare and disseminate information to agencies and resource users, as appropriate, on ways of preventing or minimising the adverse effects of discharges of contaminants to air. This could include information on:

(1) the best practicable option for preventing or minimising odour;

(2) good practice for land clearance by burn-off;

(3) the requirement for discharge consents for the burning of certain materials and substances, especially those noted in Rule 19; and

(4) the application of all or particular rules contained within this Plan.

This method implements Policy 4.2.8 in particular.

6.1.10 Assist other agencies and resource user groups, where appropriate, with the preparation and dissemination of guidelines, codes of practice, information programmes and similar initiatives where these will contribute to achieving the objectives of this Plan.

This method implements Policy 4.2.8 in particular.

6.1.11 To encourage provisions in district plans which promote the avoidance, remedying or mitigation of the adverse effects of discharges of contaminants to air on amenity values.

This method implements Policy 4.2.7 in particular.

6.1.12 Encourage territorial authorities to include, where necessary, appropriate provisions in district plans or bylaws for the management of domestic open

burning, burn-offs relating to subdivision development, and the control of dust.

This method implements Policy 4.2.18 in particular.

6.1.13 Co-ordinate regular meetings between the Council and territorial authorities in the Region to discuss air management issues and the roles of the different authorities.

This method implements Policies 4.2.4 and 4.2.18 in particular.

6.2 Discharges to Air from Domestic Activities

The Wellington Regional Council will:

6.2.1 Provide information to the public, in association with other agencies, on the adverse effects of burning treated timbers, targeted at times and in areas where burning treated timber is a particular problem.

This method implements Policy 4.2.17 in particular.

6.2.2 Provide information on alternatives to burning vegetative matter, such as composting.

This method implements Policies 4.2.17 and 4.2.19 in particular.

6.3 Discharges to Air from Burn-off

The Wellington Regional Council will:

6.3.1 Liaise with relevant central government agencies, territorial authorities, and rural fire authorities regarding the need to take environmental matters into consideration when granting fire permits.

This method implements Policy 4.2.19 in particular.

6.3.2 Promote the use of alternative means of disposing of waste vegetative matter which take into account effects on other environmental media.

This method implements Policy 4.2.19 in particular.

6.3.3 Promote guidelines and codes of practice which contribute to reduced emissions to air from land clearance (e.g., the New Zealand Forest Code of Practice (Vaughan, Visser and Smith 1993)).

This method implements Policy 4.2.19 in particular.

6.4 Discharges to Air from the Spray and Powder Application of Agrichemicals

The Wellington Regional Council will:

6.4.1 Promote compliance with the relevant rules and policies in this Plan on the part of agrichemical sprayers and through organisations such as the New Zealand Agrichemical Education Trust and Federated Farmers.

This method implements Policy 4.2.20 in particular.

6.4.2 Promote the use of educational material relating to the safe and responsible application of agrichemicals.

This method implements Policy 4.2.20 and 4.2.21 in particular.

6.4.3 Encourage the adoption of more "environmentally friendly" alternatives to the use of agrichemicals.

This method implements Policy 4.2.20 in particular.

6.4.4 Liaise with territorial authorities and other agencies which use agrichemicals in public areas and along water bodies to reduce the adverse effects of the use of these chemicals.

This method implements Policy 4.2.20 in particular.

6.4.5 Encourage agrichemical spray users to undertake GROWSAFE courses, or other relevant courses, which contribute to the responsible application of agrichemicals.

This method implements Policy 4.2.20 in particular.

6.4.6 Ensure that Council staff administering Rules 1 and 2 of this Plan are adequately trained to ensure compliance with these rules.

This method implements Policy 4.2.20 in particular.

6.5 Discharges to Air from Mobile Transport Sources

The Wellington Regional Council will:

6.5.1 Promote the need for more comprehensive nationwide initiatives to reduce the discharge of contaminants from mobile transport sources, most notably to the Ministry of Commerce, Ministry for the Environment, the Ministry of Transport, the Land Transport Safety Authority, Transit NZ, Transfund NZ, and the Civil Aviation Authority.

This method implements Policy 4.2.22 in particular.

6.5.2 Include appropriate policies in the Wellington Regional Land Transport Strategy aimed at reducing the discharge of contaminants from motor vehicles.

This method implements Policy 4.2.23 in particular.

6.6 The Global Environment

The Wellington Regional Council will:

6.6.1 Promote the recovery, re-use and recycling of ozone depleting substances and the use of alternative technologies where appropriate.

This method implements Policy 4.2.24 in particular.

6.6.2 Liaise with the Ministry of Commerce and the Ministry for the Environment to ensure consistency with central government initiatives on greenhouse gases and ozone depletants.

This method implements Policies 4.2.24 and 4.2.25 in particular.

6.6.3 Prepare an inventory of all significant sources and sinks of greenhouse gases in the Region, including carbon dioxide, methane and nitrous oxide.

This method implements Policy 4.2.25 in particular.

6.6.4 Promote waste management practices that reduce greenhouse gas emissions, in particular the collection and utilisation of landfill gases.

This method implements Policy 4.2.25 in particular.

6.6.5 Assess the potential effects of climate change on air quality in the Region in consultation with appropriate expert organisations and central government.

This method implements Policy 4.2.25 in particular.

7. Principal Reasons for Adopting the Provisions

7.1 Principal Reasons for Objectives

The **objectives** in this Plan are concerned with protecting and maintaining air quality where it is good, enhancing it where it is not so good, preventing further deterioration in all areas, and avoiding or reducing the effects of air pollution on a range of human and environmental values.

Air quality in the Region is generally assumed to be high. Whilst knowledge of atmospheric processes and changes brought about by human activities has increased in recent years, much is still unknown. Given the life supporting significance of clean air and the limited availability of data, it is appropriate to adopt a cautious approach to decisions that could have significant impacts on air quality.

Objective 4.1.1 recognises that insofar as it is possible to identify areas of high quality air, there is a need to ensure that as a minimum, such areas of high quality are maintained and protected. **Objective 4.1.1** also reflects a public desire for high air quality in all locations and at all times. However, the objective also acknowledges through the use of the word "significant" that there may be circumstances and occasions when a minor or short-term deterioration of quality is a necessary and acceptable cost for the achievement of other social and economic objectives.

Objective 4.1.1 is based on the understanding that, as information is progressively obtained, it may prove to be desirable to enhance air quality in certain geographical areas of the Region by reducing the quantities or eliminating the types of emissions that are degrading the quality of air in that area.

Objective 4.1.2 concerns the avoidance or reduction of adverse effects arising from the discharge of contaminants into air. This is consistent with the philosophy of the Act and acknowledges that all activities potentially have some adverse effects on air quality. The six types of effects listed in Objective 4.1.2 are significant resources or values in the Region which could be affected by discharges of contaminants to air.

7.2 Principal Reasons for Policies and Methods (other than Rules)

7.2.1 General ambient air quality management

The Act requires an effects-based approach to managing the quality of the air resource. This implies the need for guidelines or standards against which to measure the effects of activities on existing ambient air quality. Guidelines or standards are also important as targets for areas with degraded air quality, and as parameters to measure the effectiveness of air quality initiatives and control

strategies.

Guidelines are preferred to standards because standards are fixed through regulation, and therefore require a higher level of confidence in the existing data than is currently available.

A two tier system of air quality guidelines has been adopted in **Policy 4.2.1** in order to reflect the desirability of maintaining the Region's existing high quality air resource. The maximum acceptable levels in the ambient air quality guidelines are based on the National Ambient Air Quality Guidelines. The maximum desirable levels are based on the Canadian Air Quality Guidelines and recommendations of the World Health Organization (European Guidelines (WHO, 1987)) for protection of air quality values other than human health effects. The maximum acceptable levels and the basis for adopting them in the National Ambient Air Quality Guidelines are discussed in greater detail in the Ministry for the Environment's publication "National Ambient Air Quality Guidelines" (1994).

The ambient air quality indicators in **Policy 4.2.2** have been adopted to be consistent with the National Ambient Air Quality Guidelines. The high priority indicators, which reflect current significant sources of contaminants in the Region, have been adopted for the following reasons:

- particulates can have significant adverse effects on human health. Particulates include deposited particulates, suspended particulates, and visibility-reducing particulates. PM_{10} particles (particulates which have a diameter smaller than 10 micrometres) have been specifically identified because of the adverse effects which such sized particles can have on human health, especially the respiratory system;
- carbon monoxide is a significant indicator of the effects of motor vehicle emissions, particularly in urban areas;
- lead has been adopted because of its effects on human health;
- nitrogen oxides are important indicators in urban areas. They affect human health and sensitive ecosystems; and
- visibility is an indicator of the build up of pollutants.

Fluoride, hydrogen sulphide, ozone, and sulphur dioxide, while not significant indicators in the Wellington Region at this time, are national indicators and may become significant if new industries are established in the Region, or in the case of sulphur dioxide, if coal becomes a more significant fuel source. Baseline monitoring of background levels of these indicators would be useful for the assessment of potential effects of new industries.

Policy 4.2.3 and **Methods 6.1.1 and 6.1.2** promote the need to gather information on the Region's ambient air quality in order to:

- describe the existing air quality in the Region;

- detect and measure any adverse effects of human activities; and
- enable the Council to determine whether the policies in this Plan are achieving the desired results.

An emission inventory (**Method 6.1.3**) is necessary to provide knowledge of the nature and distribution of discharges of contaminants to the atmosphere and a greater understanding of current adverse effects on the environment and likely future adverse effects.

An understanding of regional meteorology (**Methods 6.1.4 and 6.1.5**) is essential to air quality management, as meteorological data is required to model the effects of discharges to air and to interpret ambient air quality monitoring data.

Methods 6.1.1-6.1.6 detail commitments to put in place an ambient air quality monitoring programme, initiate a regional emission inventory, and gather information on the Region's meteorology. These actions are intended to provide more detailed information on which to base future decisions on managing the Region's air resource. Four years is an appropriate period within which to establish a monitoring regime because within three years a pilot monitoring programme will have been completed. The pilot programme is necessary to assess the Region's ongoing monitoring requirements and the most efficient and effective means of gathering information.

Policies 4.2.4-4.2.6 have been adopted to:

- reflect the general duty in the Act to avoid, remedy or mitigate the adverse environmental effects of activities;
- give effect to the emphasis on waste minimisation and cleaner production promoted in the Regional Policy Statement. A minimisation approach is particularly prudent in cases where there is a lack of monitoring data on existing ambient air quality and the effects of activities on the Region's air quality;
- promote an integrated approach to the discharge of contaminants across all environmental media; and
- integrate land management with management of the effects of discharges to air.

These policies have been adopted to assist the Council in the assessment of resource consent applications and to indicate the Council's approach to intending applicants.

Rules are used as the basis of control in this Plan because the Act specifies (section 15) that discharges to air from industrial or trade premises cannot take place unless specifically allowed by a rule in a regional plan, any relevant proposed regional plan, a resource consent, or regulations. The classification of activities on the basis of

their potential effects (i.e., their likely effects if no control measures were adopted) on human health, amenity values and natural and physical resources reflects the requirement of the Act to "have regard to the actual or potential effect on the environment of activities" (section 68(3)).

Policy 4.2.7 and **Method 6.1.11** recognise the importance of protecting amenity values from the effects of discharges to air. **Method 6.1.11** has been included to promote the inclusion of provisions in district plans, which, within the scope of the Act, aim to reduce adverse effects on amenity values resulting from discharges to air. This might include the use of zoning or buffering to exclude certain types of activities which may be offensive, objectionable or noxious with regard to local amenity values.

Policy 4.2.8 recognises the value of industry guidelines and codes of practice in promoting sustainable resource management practices. Guidelines and Codes of Practice are particularly valid where they are able to be enforced by an industry based regulatory body or producer board. Industry guidelines and codes of practice, such as those prepared by the New Zealand Pork Industry Board or the New Zealand Agrichemicals Education Trust may in time supplant the need for rules and regulations in some industries.

The matters in **Policy 4.2.9** to which the Council will give particular consideration in the assessment of discharge permit applications, have been selected to represent the range of effects that a discharge to air may have. These matters are also consistent with the definition of "effect" in section 3 of the Act.

Policy 4.2.10 has been adopted to indicate the Council's approach to the use of emission standards and BPO requirements. The use of the BPO approach and the minimisation of hazardous emissions is a prudent approach in the absence of good information.

Policies 4.2.11-4.2.13 have been adopted to give guidance on how, and when, the Council will place conditions on resource consents.

Policy 4.2.14 defines the Council's approach to limiting adverse effects resulting from odour. In the absence of any national standards for odour, and because of the difficulties in measuring and assessing it, this policy identifies the key matters for consideration in an assessment of adverse effects caused by odour.

A standard dispersion modelling procedure has been adopted in **Policy 4.2.15** to ensure consistency in the assessment of permit applications. Rules are not the only means of avoiding, remedying or mitigating adverse effects from the discharge of contaminants. While the Plan contains 23 rules relating to the discharge of contaminants from a range of different activities, the Council also recognises the advantages of using other mechanisms such as advocacy, education and self regulation by industry and sector groups.

Methods 6.1.9-6.1.12, involving the preparation and dissemination of guidelines, codes of practice, information programmes and working with other authorities have been adopted as means by which the adverse effects of some discharges may be avoided or mitigated. These measures are likely to prove particularly useful for dealing with smaller scale discharges which collectively may have significant cumulative effects, or certain sectors where education to change attitudes may be more appropriate than rules. Guidelines, codes of practice and education will be used in conjunction with some of the rules and in time may replace the need for certain rules.

The guidelines in Appendix 3 have been adopted in **Policy 4.2.16** in order to provide greater surety to resource consent applicants discharging contaminants from heating and electrical processes.

7.2.2 Discharges to air from domestic activities

The policies for domestic activities (**Policies 4.2.17 and 4.2.18**) encourage or discourage certain activities (on the basis of their effects on health and amenity) in preference to regulating those activities through regional rules. There is insufficient information available on the cumulative effect of domestic sources on regional air quality to justify the use of regional rules. It is also difficult to enforce a regulatory approach to controlling discharges from area sources (as opposed to single point sources).

Policy 4.2.18 recognises that the Resource Management Act is not the only means of controlling adverse effects. Territorial authorities are also able to control nuisance effects, usually of a more localised nature, through the provisions of the Health Act 1956. The control of more localised adverse effects, especially from domestic premises, should remain a territorial authority responsibility unless otherwise covered by a rule in this Plan.

Policies 4.2.17 and 4.2.18 are supported by **Methods 6.2.1 and 6.2.2** which focus on two particular issues, the burning of treated timber, and the promotion of alternatives to burning vegetative matter. Information and education has been adopted as the most efficient and effective means of controlling the discharge of contaminants from these sources. The burning of treated timber has known health effects which **Method 6.2.1** seeks to mitigate.

7.2.3 Discharge to air from burn-offs

Policy 4.2.19 promotes a number of measures aimed at avoiding, remedying or mitigating adverse effects on air quality from the burn-off of vegetative matter, particularly in rural settings. **Method 4.2.18** aims to promote a more integrated approach to considering the safety and environmental aspects of burning. This will involve better liaison with local authorities and other concerned parties. Promoting

the adoption of good practice to people burning-off vegetative matter (**Method 6.3.2**) and promoting alternative means of land clearance (**Method 6.3.3**) are considered effective means of informing people of the potential adverse effects of their activities and alternatives they may have open to them.

7.2.4 Discharges to air from the spray and powder application of agrichemicals

The spray application of agrichemicals is addressed in this Plan **(Policies 4.2.20 and 4.2.21)** because of regional and national concerns about the effects of spray drift.

A combination of regulatory and non-regulatory approaches is proposed. The regulatory approach (**Rules 1 and 2**) reflects the potential adverse effects of spray drift, including the potential for water and land to become contaminated. This approach is supplemented by **Methods 6.4.1-6.4.6** which promote good practice and the need for agrichemical spray applicators to be adequately trained in the application of agrichemicals. The expectation is that in time the need for rules relating to agrichemical spraying will disappear as users apply chemicals with more regard to their potential adverse effects. Codes of practice, which have been developed with input from users of agrichemicals, are likely to produce a high level of compliance on the part of those users.

7.2.5 Discharges to air from mobile transport sources

Emissions from mobile transport sources are dealt with in this Plan (**Policies 4.2.22 and 4.2.23** and **Methods 6.5.1 and 6.5.2**) because they can be a major contributor to the degradation of local air quality in urban areas of the Region. A non-regulatory approach has been adopted because it is more appropriate that any regulations or minimum standards relating to mobile transport sources in particular, be developed at a national level. A national approach ensures equity and consistency across regions. This is essential with mobile sources such as motor vehicles.

Nationally applicable mechanisms already exist, such as the warrant of fitness for motor vehicles, which could include more stringent emission standards. In addition, central government has a wider range of mechanisms at its disposal to reduce emissions from mobile sources, including the possibility of requiring efficient burning engines, the introduction of catalytic converters, and the possibility of CO_2 taxes.

These provisions are consistent with the Regional Policy Statement for the Wellington Region, in particular the policies in the Air, Energy and Built Environment and Transportation Chapters.

7.2.6 The global environment

Policies 4.2.24 and 4.2.25 and **Methods 6.6.1-6.6.5** reflect the differing roles of

central and regional government in relation to this matter. Central government has the main role in the development and implementation of policy on discharges to air of global significance. Regional councils have a supporting role in implementing policies or agreements initiated at a national level. The main role for the Council is therefore advocacy and promotion of public awareness and control options.

Greenhouse gases and ozone-depleting substances have been targeted for control because of their adverse effects on the global air resource and because of central government commitments to their control. The effects of ozone depletion include damage to human health (e.g., increased incidence of skin cancers and eye damage) and effects on crops, livestock and marine life. Although there is some scientific uncertainty regarding the effects of increasing levels of greenhouse gases in the atmosphere, it is now generally accepted that climate change is likely to occur on a global scale. Increased storminess, global warming and sea level rises are some possible effects. Due to the uncertainty of effects and the difficulties in linking emissions of greenhouse gases with global and local effects, a non-regulatory approach has been adopted at this stage, together with a firm commitment to support central government initiatives.

7.3 Principal Reasons for Rules

Rules 1 and 2 (agrichemical spray and powder application)

Rules 1 and 2, which specify permitted activities, have been adopted to:

- prevent or minimise adverse effects relating to the spray/powder drift of agrichemicals on non-target areas; and
- minimise the actual and potential adverse effects of agrichemicals on water and aquatic ecosystems.

The application of agrichemical sprays by small scale application methods is permitted because:

- this typically involves small quantities of agrichemicals applied infrequently by a large number of users generally operated at ground level at low pressures; and
- the adverse effects of agrichemical spray and powder drift is generally insignificant in these circumstances.

The application of agrichemical sprays and powders in public areas, including alongside roads and thoroughfares, has been limited to applicators holding a current Registered Chemical Applicators' GROWSAFE Certificate and their employees holding a current Standard GROWSAFE Certificate, as a means of ensuring that applicators have the best possible training and general awareness of their activities and to encourage responsibility. The conditions such as restrictions on the method of application, and public notification, are all

intended to ensure that human safety is safeguarded and adverse effects on natural and physical resources avoided or minimised.

Public notification and signage requirements have been included as a means of providing for greater co-operation within and between local communities about the application of agrichemical sprays/powders. These conditions are intended as a means of ameliorating conflicts about agrichemical spray/powder application which have become more apparent in recent years. Notification and signage will ensure that people who may be potentially adversely affected by agrichemical spraying are given sufficient information and notice to take any action which they consider necessary to avoid any adverse effects.

Rule 3 (fumigation)

Fumigation is a permitted activity because it generally does not result in significant adverse environmental effects.

The condition that there be no dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. This is considered the most practicable approach until such time as more cost-effective and tested evaluation techniques are available. In the first instance the consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council.

Rule 4 (agricultural effluent and other on-farm processes)

On-farm processes covered by Rule 4 are permitted activities because if managed appropriately, they should not result in any significant adverse environmental effects.

Rule 4 explicitly excludes discharges to air from all factory farms (intensive farms). This is due to factory farms, either because of their location and/or poor environment management, being a traditional source of complaints or concern about odour.

Territorial authorities may employ other mechanisms, such as zoning or buffering in their district plans, to ensure that the potential adverse effects on amenity values (most commonly relating to odour) related to factory farms are avoided. Alternatively, owners/operators of factory farms could consider investing in their own buffer strips to distance their operations from neighbouring properties.

The condition that there be no dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the

boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. This is considered the most practicable approach until such time as more cost-effective and tested evaluation techniques are available. In the first instance the consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council.

Rule 5 (processing of animal and plant matter)

Rule 5 permits the discharge of contaminants from a range of activities involving the processing of animal and plant matter. Discharges from these activities are not generally considered to have any significant adverse effects on the environment. The principal environmental concern relating to these permitted activities is one of odour. In some larger processes there is also the potential for the discharge of significant quantities of smoke. However, the Council considers that both odour and smoke from these processes can be controlled by quite simple technology, such as the use of charcoal filters, which it considers should not generally necessitate a resource consent.

Those discharges explicitly excluded from Rule 5 are discretionary activities because they commonly emit offensive or objectionable odour and are difficult to manage. This includes a number of processes, such as fish meal production and meat rendering, about which the Council has fielded numerous complaints in the past. Adequate controls are required for these types of processes in order to avoid or mitigate the discharge of offensive or objectionable odour.

The emission of smoke from a chimney is an indicator of incomplete or poor combustion, as 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 particulates which soil neighbouring properties. Inefficient combustion may result in the use of excessive fuel and increase the emission of other combustion related contaminants. Smoke may also result from the cooking of certain foods, such as those with a high fat content.

The condition that there be no smoke, dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. This is considered the most practicable approach until such time as more cost-effective and tested evaluation techniques are available. In the first instance the consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council.

The requirement that the discharge of contaminants to air is vented through a chimney(s) or vent(s) is required in order to minimise the discharge of fugitive

emissions and make for greater ease in monitoring discharges.

Rules 6 and 7 (heating and electrical generation processes)

Rules 6 and 7 relate to the discharge of contaminants from heating or electrical generation processes. Discharges from these sources (such as oxides of nitrogen and sulphur (NO_x and SO_x) and particulates resulting from combustion) must be adequately dispersed to avoid or minimise any significant adverse environmental effects.

Discharges from mobile transport sources are not covered by Rules 6 and 7. The Council considers that the control of discharges from motor vehicles, aircraft and the like, are most practicably administered at a national level (see Policies 4.2.22 and 4.2.23 and Methods 6.5.1 and 6.5.2 of this plan). Discharges from small scale domestic sources are permitted (with conditions) by Rule 6. In some parts of the Region local by-laws may also apply. Such sources do not normally result in any significant adverse effects. Rule 7 includes larger scale domestic premises, such as heating for a block of flats, as controlled activities. Processes at this scale (i.e., greater than 2 MW) should conform to the same conditions regardless of whether the source of the emissions is an industrial or domestic property.

The discharge of contaminants from fuel burning equipment with a capacity of 2 MW or less is a permitted activity because, if managed properly, such processes are unlikely to result in any significant adverse effects on the environment. The conditions imposed in Rule 6 are intended to ensure that smaller sized discharges are managed so as not to result in any significant adverse environmental effects.

Discharges from fuel burning equipment with a capacity of more than 2 MW and less than 5 MW are controlled activities because of concern that contaminants discharged to air from these larger processes are properly dispersed so as to avoid or minimise any adverse effects. Adverse effects, in terms of dispersion, from facilities with a capacity of more than 2 MW are principally related to the height and design of the discharge point. The most appropriate means of addressing the complexities of chimney design and height is through a controlled activity resource consent process.

The determination of minimum chimney height is based on accepted technical methods for ensuring that ground level concentrations of contaminants from such sources do not exceed standard minimum levels. 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 Appendix 3. If these criteria cannot be met, the Council has the ability to apply more stringent criteria according to the circumstances. If necessary, dispersion modelling may have to be carried out.

Discharges of contaminants from facilities with a combined rate of

consumption greater than 5 MW (measured by the higher heating value of the input fuel) are discretionary activities, covered by Rule 23, as their effects may warrant additional controls to those contained in Rules 6 and 7. These effects include high emissions of ash and particulates, SO_x, NO_x, and adverse aesthetic effects from smoke. In addition, larger fuel burning equipment is generally more technically complex and can require specialist knowledge for its operation.

The emission of smoke from a chimney is an indicator of incomplete or poor combustion, as 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 particulates which soil neighbouring properties. Inefficient combustion may result in the use of excessive fuel and increase the emission of other combustion related contaminants.

The condition that there be no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP), measured at the point of the discharge, has been adopted in order to minimise the adverse effects of the discharge of contaminants at or beyond the boundary of the property. Changing weather conditions and rates of dispersion make measurement of particulates at or beyond the boundary of the property difficult.

The condition that there be no smoke, dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. This is considered the most practicable approach until such time as more cost-effective and tested evaluation techniques are available. In the first instance the consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council.

Conditions (iii) and (iv) in Rule 6 have been included to minimise the discharge of fugitive emissions and ensure adequate dispersion with minimal adverse effects from downdraughts. They also make it easier to monitor discharges.

Rule 8 (processing, collection, storage, transfer and flaring of hydrocarbons and biogas)

The production of fuel from biogas at a rate less than 10 m^3 is permitted in Rule 8 because such activities are considered unlikely to have any significant adverse environmental effects. Similarly, the flaring of hydrocarbons at a rate of less than 2 MW or the discharge of contaminants from the storage or transfer of hydrocarbons and gas is not likely to result in any significant adverse environmental effects.

The Council wishes to encourage the recovery of biogas and facilitate any small scale recovery processes or investigations associated with larger recovery operations. The production of biogas at rates equal or greater than 10 m^3 per day generally involves farm scale production and other similarly sized facilities, and can involve the scrubbing of biogas for use in motor vehicles. The production of biogas at 10 m^3 or more per day generally involves more complex technology and there is greater potential for the discharge of methane gas - a greenhouse gas - to the atmosphere.

Similarly, small scale flaring (less than 2 MW) is a permitted activity because such burning is considered to have little significant adverse effect on neighbouring properties (light spill).

The transfer and storage of hydrocarbons and biogas is a permitted activity because the discharges from any associated ventilation pipes are generally minimal.

All processes relating to the processing or flaring of hydrocarbons or biogas not covered by (1)-(3) are discretionary activities due to their complexity and/or the contaminants which they emit to air. These activities are known to release, or can be reasonably anticipated to release, chemicals:

- with significant adverse effects on human health at concentrations reasonably likely to exist at or beyond the boundary of the property; and
- which are toxic and which may persist or bioaccumulate in the environment.

Discharges from such processes typically include emissions of smoke, SO_x and NO_x. They have the potential to result in significant adverse effects on the environment, including the release of objectionable odours and a range of known carcinogens and toxic substances. Biogas is predominantly methane, which is a greenhouse gas. It has properties which are odorous, and therefore objectionable and offensive in large amounts. Conditions relating to discretionary consents will depend on the size, location and nature of the process.

The emission of smoke from a chimney is an indicator of incomplete or poor combustion, as 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 particulates which soil neighbouring properties. Inefficient combustion may result in the use of excessive fuel and increase the emission of other combustion related contaminants.

The condition that there be no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP) has been adopted in order to minimise the

adverse effects of the discharge of contaminants at or beyond the boundary of the property. Changing weather conditions and rates of dispersion make measurement of particulates at or beyond the boundary of the property difficult.

The condition that there be no smoke, dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. This is considered the most practicable approach until such time as more cost-effective and tested evaluation techniques are available. In the first instance the consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council.

Conditions (iii) and (iv) have been included in order to minimise the discharge of fugitive emissions, and ensure adequate dispersion with minimal adverse effects from downdraughts. They also make for greater ease in the monitoring of discharges. Condition (iv) is aimed at protecting neighbouring property owners/dwellers from the adverse effects of light spill, as well as reducing any adverse effects that flares may have on amenity values in general.

Rule 9 (fuel conversion processes)

The discharge of contaminants to air from those processes noted in Rule 9 are discretionary activities due to their large scale nature, their complexity, and the potential for significant adverse environmental effects. Processes involving pyrolysis, carbonisation, destructive distillation, and gasification are likely to release varying amounts of dust, particulates, smoke, SO_x, and NO_x and compounds of varying composition which can be toxic to humans. These production processes are discretionary activities requiring a resource consent in order that appropriate conditions can be placed on them to minimise or avoid adverse effects.

Rule 10 (mineral extraction, and the sorting and storage of bulk products)

Rule 10 permits activities which are unlikely to result in any significant adverse environmental effects. The condition associated with Rule 10 is aimed at minimising nuisance type adverse effects most likely to be associated with the discharge of dusts and particulates. Those processes which discharge contaminants to air which are explicitly excluded from Rule 10, requiring a resource consent under Rule 23, are processes which commonly result in offensive or objectionable discharges and therefore require more specific and stringent conditions.

The condition that there be no dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the

property, has been adopted to control adverse effects on neighbouring properties. This is considered the most practicable approach until such time as more cost-effective and tested evaluation techniques are available. In the first instance the consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council.

Rule 11 (the drying and heating of minerals)

The drying and heating of minerals, where the generation capacity is equal to or less than 100 kW, is not likely to result in any significant adverse environmental effects, as long as the specified conditions are adhered to. Those processes explicitly excluded from Rule 11 are discretionary activities because they typically result in, or have the potential to result in, significant discharges of dust, smoke and odour. The manufacture of hot-mix, for example, commonly results in the release of objectionable odour, dust and smoke, and potentially harmful toxic fumes. In addition, the drying and heating of substances which release hazardous air pollutants, as specified in Appendix 1, is also a discretionary activity.

The emission of smoke from a chimney is an indicator of incomplete or poor combustion, as 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 particulates which soil neighbouring properties. Inefficient combustion may result in the use of excessive fuel and increase the emission of other combustion related contaminants.

The condition that there be no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP) has been adopted to minimise the adverse effects of the discharge of contaminants at or beyond the boundary of the property. Changing weather conditions and rates of dispersion make measurement of particulates at or beyond the boundary of the property difficult.

The condition that there be no smoke, dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. This is considered the most practicable approach until such time as more cost-effective and tested evaluation techniques are available. In the first instance the consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council.

Condition (iii) is aimed at countering fugitive emissions and minimising the adverse effects from downwash. This condition will make it easier to monitor discharges.

Rule 12 (metallurgical processes)

Rule 12 permits discharges to air associated with the melting of any metal or metal alloy where the aggregated melting capacity is **less than 100 kg** an hour. This is a rate at which resulting discharges, if complying with the stated conditions, are not considered likely to result in any significant localised or cumulative adverse environmental effects.

The discharge of contaminants to air resulting from the production or processing of 100 kg or more of metals per hour or from processes which are otherwise excluded from Rule 12 are discretionary activities because of:

- the possibility of significant adverse effects on human health, and their potential to release offensive or objectionable contaminants into the atmosphere; and
- the toxic nature of some of the compounds listed in Appendix 1.

These production processes are discretionary activities in order that any potential for adverse effects can be avoided or minimised and that the best practicable options for such processes are adopted.

The emission of smoke from a chimney is an indicator of incomplete or poor combustion, as 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 which soil neighbouring properties. Inefficient combustion may result in the use of excessive fuel and increase the emission of other combustion related contaminants.

The condition that there be no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP) has been adopted in order to minimise the adverse effects of the discharge of contaminants at or beyond the boundary of the property. Changing weather conditions and rates of dispersion make measurement of particulates at or beyond the boundary of the property difficult.

The condition that there be no smoke, dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. This is considered the most practicable approach until such time as more cost-effective and tested evaluation techniques are available. In the first instance the consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council.

Condition (iii) is aimed at countering fugitive emissions and minimising the adverse effects from downwash. This condition will also make it easier to monitor discharges.

Rule 13 (chemical processes)

Rule 13 generally permits the discharge of contaminants to air relating to the manufacture or other processing of chemicals from industrial or trade processes, as long as the specified conditions are complied with. These discharges are unlikely to result in any significant adverse environmental effects.

Discharges of contaminants to air arising from processes listed in Rule 13(1) (a-h)) are discretionary activities. Discharges from these processes have the potential to cause significant adverse effects on human health, and may release offensive or objectionable contaminants into the atmosphere. These processes have been identified because they involve the processing of substances known to be toxic to humans, and because they are processes which involve complex manufacturing techniques. These production processes are discretionary activities in order that any potential for adverse effects can be avoided or minimised and that the best practicable options for such processes are adopted.

The emission of smoke from a chimney is an indicator of incomplete or poor combustion, as 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 particulates which soil neighbouring properties. Inefficient combustion may result in the use of excessive fuel and increase the emission of other combustion related contaminants.

The condition that there be no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP) has been adopted in order to minimise the adverse effects of the discharge of contaminants at or beyond the boundary of the property. Changing weather conditions and rates of dispersion make measurement of particulates at or beyond the boundary of the property difficult.

The condition that there be no smoke, dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. This is considered the most practicable approach until such time as more cost-effective and tested evaluation techniques are available. In the first instance the consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council.

Condition (iii) is aimed at ensuring against fugitive emissions and minimising the adverse effects from downwash. This condition will also allow enabling greater ease in the monitoring of discharges.

Rule 14 (di-isocyanates and organic plasticisers)

The use of less than 10 litres (or 10 kg) per day and less than 3 litres (or 3 kg) per hour of substances containing plasticisers or di-isocyanates is unlikely to result in any significant adverse environmental effects, as long as the conditions are adhered to. The use of 10 litres (or 10 kg) or more per day, or 3 litres (or 3 kg) or more per hour is considered to define a medium to large scale activity, the potential of which to contaminate the air should be assessed on its merits.

Processes that result in the emission of significant quantities of di-isocyanates and organic plasticisers can result in significant discharges of vapours, aerosols and dusts which can irritate the membranes of the nose, throat, lungs and eyes. Prolonged exposure, usually in the workplace, can result in individuals becoming sensitised, taking the form of an asthmatic attack.

The condition that there be no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP) measured at the point of discharge, has been adopted in order to minimise the adverse effects of the discharge of contaminants at or beyond the boundary of the property. Changing weather conditions and rates of dispersion make measurement of particulates at or beyond the boundary of the property difficult.

The condition that there be no contaminant from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. This is considered the most practicable approach until such time as more cost-effective and tested evaluation techniques are available. In the first instance the consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council.

Condition (iii) is aimed at protecting people from direct exposure to the discharge from a stack before it is diluted through dispersion by minimising the discharge of fugitive emissions, and ensuring adequate dispersion with minimal adverse effects from downdraughts. These conditions also allow greater ease in the monitoring of discharges.

Rule 15 (coating processes, including spray painting)

Rule 15 uses the limit of less than 30 litres (or 30 kg) of paint per day, and also less than 3 litres (or 3 kg) of paint per hour as the basis for differentiating between application processes likely to have significant adverse environmental effects and smaller processes of less significance.

The emission of smoke from a chimney can affect the visual amenity of adjoining properties, and, if prolonged, can result in the fall-out of particulates which soil neighbouring properties. Inefficient combustion may result in the use of excessive fuel and increase the emission of other combustion related contaminants.

The condition that there be no discharge of particulates of a concentration greater than 250 mg/m^3 (at STP) has been adopted in order to minimise the adverse effects of the discharge of contaminants at or beyond the boundary of the property. Changing weather conditions and rates of dispersion make measurement of particulates at or beyond the boundary of the property difficult.

The condition that there be no contaminant from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. This is considered the most practicable approach until such time as more cost-effective and tested evaluation techniques are available. In the first instance, the consideration of whether a discharge is noxious, dangerous, objectionable or offensive will be made by one or more enforcement officers of the Council.

Condition (iii) is aimed at protecting people form direct exposure to the discharge from a stack before it is diluted through dispersion by minimising the discharge of fugitive emissions, and ensuring adequate dispersion with minimal adverse effects from down-draughts. These conditions also allow greater ease in the monitoring of discharges.

Rule 16 (abrasive blasting processes)

Rule 16 generally permits wet abrasive blasting because the discharge of contaminants from such processes are unlikely to have any significant adverse environmental effects. Dry abrasive blasting results in much greater concentrations of dust which tend to drift further than blasting involving water. Dry abrasive blasting, generally undertaken by commercial operators, also tends to involve the cleaning of large surfaces leading to greater potential for the discharge of fine particulates. Dry abrasive blasting is a discretionary activity because of the potential for significant adverse environmental effects associated with many blasting mediums such as high silica sands. This includes effects on human health, such as silicosis.

The condition that there be no dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. This is considered the most practicable approach

until such time as more cost-effective and tested evaluation techniques are available. In the first instance the consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council. Condition (ii) in Rule 16 is aimed at ensuring that over-spray and dust from wet abrasive blasting is contained so as not to adversely affect local water bodies.

Conditions (iii) and (iv) require people undertaking wet abrasive blasting to take the appropriate steps to prevent debris and used blasting materials from being washed or blown around, which could pose health problems or contaminate soil or water.

Rule 17 (cooling towers/ventilation)

Water vapour plumes or steam from cooling towers, air-cooled heat exchangers, and discharges to air from forced air ventilation systems, are not generally considered to have any significant adverse effects.

The condition that there be no dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. This is considered the most practicable approach until such time as more cost-effective and tested evaluation techniques are available. In the first instance the consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council.

Condition (ii) reflects the fact that if not located properly, discharges from cooling towers and the like can have a nuisance effect and in some cases a severe health effect, such as spreading legionnaires' disease. The condition is aimed at reducing any potential adverse effects on neighbouring properties.

Rules 18 and 19 (burning of combustible matter)

The principal reason for allowing burn-offs from land clearance as a permitted activity is that, subject to compliance with the specified conditions, the adverse effects are generally insignificant. Burn-offs are also controlled through the Rural Fire Authority during the fire season.

The requirement that a resource consent be obtained to burn those materials explicitly excluded from Rule 19 has been adopted to avoid or minimise the release of noxious, dangerous, offensive or objectionable contaminants into the air. The burning of municipal wastes is discretionary because of the mixed composition of such waste. Municipal waste commonly contains a wide variety of substances or materials, including garden pesticides, household cleaners, paints, plastics, rubber, lubricants and other hydrocarbon derivatives,

batteries, pharmaceutical products and other materials/substances explicitly excluded from Rule 19. When burned, some of these may result in discharges to air that are hazardous to human health and the wider environment. Landfill burning produces large quantities of smoke, deposited particulate, and odour that can cause a nuisance. Highly toxic materials such as dioxins, polycyclic aromatic hydrocarbons (PAHs) and hydrogen chloride may be released. Fires at landfills also increase the risk of an explosion of landfill gas and can be very difficult to control.

The burning of coated or covered metal cable (including metal coated with varnish, lacquers, plastic or rubber), most plastics and rubber, untreated waste oil, oil sludge, pitch, stores of paint, and motor vehicles is classed as a discretionary activity because of the release of a number of different objectionable pollutants. These include hydrogen chloride, chlorinated organic compounds, pyrolysis products, and offensive or objectionable smoke and odour. The release of hazardous air contaminants, as listed in Appendix 1, is a discretionary activity due to the potentially harmful effects of such substances on human health and the environment in general.

The cremation or burning of human remains is a discretionary activity because of cultural sensitivity relating to particulates emitted from cremation. However, the cremation or burning of bodies not undertaken in a crematorium is a permitted activity, subject to compliance with the Cremation Regulations 1973. The Cremation Regulations specify that a Medical Officer of Health's approval is required for the burning of bodies, other than at a crematorium. This is in order to expedite such cremations where sanctioned by a Medical Officer of Health.

The condition that there be no dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. In the first instance, consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council.

Condition (ii) requires that agrichemical containers are triple rinsed prior to burning, to minimise the risk of adverse effects of discharges to air from the burning of agrichemical residues. It also requires the use of appropriate burning apparatus so that the combustion process is sufficient to minimise the discharge of dark smoke. Dark smoke results from burning at low temperatures with insufficient oxygen.

Rule 20 (landfilling and composting)

Rule 20 permits small "backyard" landfilling and composting operations which, if managed properly, are unlikely to result in any significant adverse effects.

Larger scale landfilling and composting operations, where waste or organic material is accepted from sources other than the site where the landfilling and composting is undertaken, require discretionary resource consents due to concern about the significant adverse environmental effects which can result from such activities. These effects are typically localised and relate to the discharge of dust and other particulates, gases, and odour to the extent where they are considered offensive or objectionable by neighbouring property owners.

The landfilling and composting of organics typically results in the discharge of methane and other greenhouse gases. Methane is also potentially explosive in large concentrations. The release of landfill gases (predominantly methane) continues from old landfill sites long after they have been decommissioned. There is a danger of methane building up in decommissioned landfills resulting in threats of explosive combustion or asphyxiation. Hence, closed landfills are only permitted if they meet condition (i). If a closed landfill emits gases that are offensive, objectionable, noxious, or dangerous at or beyond the boundary of the property, it will require a discretionary resource consent under Rule 23.

The condition that there be no dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. This is considered the most practicable approach until such time as more cost-effective and tested evaluation techniques are available. In the first instance the consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council.

Rule 21 (sewage and trade waste conveyance, treatment and disposal)

The conveyancing and treatment of sewage in connection with any domestic septic tank or on-site sewage treatment or liquid or liquid-borne trade waste and disposal system and the general conveyancing of sewage and liquid or liquid-borne trade wastes, is permitted because these small scale treatment systems, if located and managed appropriately, are unlikely to result in any significant discharge of odour.

Off-site treatment of sewage and liquid or liquid-borne trade wastes, are discretionary activities because such processes commonly result in the emission of significant discharges of offensive or objectionable odour, and because they involve the processing of large amounts of waste, often in or near residential areas and places of work.

When an activity requires a resource consent, the Council does not intend requiring separate resource consents for each discharge point (such as

individual pump stations). Rather, as noted in section 7.1.3, it is the intention that the conveyance, treatment and disposal of sewage and trade wastes, especially related to municipal sewerage systems, and the maintenance of those systems will be dealt with through "block discharge consents". Block discharge consents cover the discharge of contaminants to air from a multitude of points along a conveyance system or from distinct parts of the system.

The condition that there be no dust, odour, gas or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. This is considered the most practicable approach until such time as more cost-effective and tested evaluation techniques are available. In the first instance the consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council.

Rule 22 (miscellaneous processes)

Processes and activities permitted by Rule 22 are permitted activities because they are unlikely to result in any significant adverse environmental effects. However, this can depend on the scale and location of the processes or activity, as well as the technology employed, both for production processes and for environmental protection. Rule 22 permits a range of everyday activities which are considered to have relatively insignificant adverse environmental affects. However, Rule 22 does include a condition aimed at minimising the potential for more localised adverse effects.

The emission of smoke from a chimney is an indicator of incomplete or poor combustion, as 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 which soil neighbouring properties. Inefficient combustion may result in the use of excessive fuel and increase the emission of other combustion related contaminants.

The condition that there be no particulate, smoke, odour, gas, aerosols or vapour from the process which is noxious, dangerous, offensive or objectionable at or beyond the boundary of the property, has been adopted in order to control adverse effects on neighbouring properties. This is considered the most practicable approach until such time as more cost-effective and tested evaluation techniques are available. In the first instance the consideration of whether a discharge is objectionable or offensive will be made by one or more enforcement officers of the Council.

Rule 23 (general rule)

Rule 23 reflects the requirement of section 15(1)(c) of the Act that no person may discharge any contaminant from any industrial or trade premises into air, unless expressly allowed by a rule in a regional plan or any relevant proposed regional plan, a resource consent, or regulations.

Similarly, for non-industrial and non-trade processes, Rule 23 reflects the requirements of section 15(2) of the Act that no person may discharge any contaminant into the air from any place or any other source, whether moveable or not, in a manner that contravenes a rule in a regional plan or proposed regional plan, unless expressly allowed by a resource consent, or allowed by section 20 of the Act.

8. Environmental Results Anticipated

The changes in the environment which are anticipated through the implementation of this Plan are grouped as follows:

(1) changes in the natural environment;

(2) changes in the built environment; and

(3) changes in the management environment.

Although good baseline information against which to measure progress towards these results is not currently available, one of the consequences of the implementation of this Plan will be that better information on air quality is available. This will contribute to the Council's ability, in ten years time, to determine whether the results listed in this section have been achieved. Lack of good information also limits the ability to specify quantifiable results.

It should also be noted that in some cases the results listed in this section are dependent upon other factors (e.g., district plans, other regional plans, other legislation) in addition to the provisions in this Plan.

8.1 Changes in the Natural Environment

E 1 There is no significant deterioration in ambient air quality throughout the Region.

E 2 Local ambient air quality is improved in those areas where it is currently being degraded by anthropogenic emissions.

E 3 There is less long-term contamination of soil, water or other resources as a result of the discharge of contaminants to air.

E 4 The incidence of complaints relating to the effects of odorous discharges decreases.

E 5 Adverse effects on indigenous ecosystems and commercially significant crops resulting from the discharge of contaminants to air are decreased.

E 6 Discharges to air of contaminants of global significance within the Region are reduced to a level consistent with New Zealand's international obligations.

E 7 There are fewer reported cases of off-target adverse effects arising from the application of agricultural sprays and powders.

8.2 Changes in the Built and Manufactured Environment

E 8 There is increased use of cleaner production practices among industries in the Region.

E 9 Home owners and occupiers are more aware of the cumulative effects of their activities on local ambient air quality and take appropriate steps to avoid, remedy or mitigate those effects.

E 10 All persons spraying agrichemicals in public areas are adequately trained, and there is a substantial increase in the numbers or percentage of people spraying agrichemicals in other areas who are adequately trained.

8.3 Changes in the Management Environment

E 11 The ambient air quality in the Region is described and problem areas are identified.

E 12 Better information is available on the effects of discharges of contaminants on regional ambient air quality.

E 13 District councils take steps to integrate land use planning and effects of discharges of contaminants into air.

E 14 Transport planning and urban planning agencies adopt measures to reduce the adverse effects of the discharge of emissions from motor vehicles on air quality.

9. Implementing and Reviewing the Plan

This section of the Plan sets out:

- the procedures to be used to deal with issues which cross local authority boundaries, and issues between territorial authorities and between regions;
- the procedures to be used to monitor the effectiveness of the Plan as a means of achieving its objectives and policies; and
- the procedures to be used to review the provisions of the Plan;

as required by section 67(1)(h) and (i) of the Act.

9.1 Procedures for Addressing Cross Boundary Issues

9.1.1 Issues which cross regional boundaries

The air resource, by its very nature, moves between regions. The Wellington Region is subjected to atmospheric pollution from sources outside the Region, and similarly, sources of pollution from within the Region may have effects in other regions. The adoption of ambient air quality guidelines or standards, and the development of controls on major sources of emissions that could cross regional boundaries, is therefore best co-ordinated at an inter-regional or national level.

Some of the Region's major sources of air pollution are mobile (e.g., motor vehicles) and can be effectively managed only at a national or inter-regional level.

A further inter-regional issue is the potential for cost effective air quality monitoring to be carried out in a co-ordinated manner by neighbouring regions.

There is a need for a consistent and co-operative approach between regions and between central government and regional councils. To this end, the Wellington Regional Council will:

(1) liaise with the Ministry for the Environment over air quality issues which are best dealt with or co-ordinate at a national level;

(2) continue to participate in the Regional Air Quality Working Group - a group of staff from regional councils throughout the country which provides an opportunity to exchange information, develop a co-ordinated approach, and use the councils' combined resources most effectively;

(3) promote a collaborative approach to managing discharge permit applications where the application site or the effects arising from the proposed activity cross regional boundaries or have implications for

adjoining authorities; and

(4) liaise with the neighbouring regional council and unitary authority, horizons.mw (Manawatu-Wanganui Regional Council) and Marlborough District Council, over the possibility of joint ambient air quality monitoring programmes.

9.1.2 Issues which cross territorial authority boundaries

Activities in one part of the Region may affect the air quality in other parts of the Region. For example, Upper Hutt City and The Hutt City share a common air resource. Management of the air resource at a regional level through the provisions of this Plan should ensure that air quality issues which cross territorial boundaries are taken into account in air quality policy and planning and the granting of resource consents.

The policies and plans of territorial authorities, particularly those relating to transport and land use, also have the potential to affect air quality in neighbouring districts. The Council will encourage territorial authorities to consider such effects in the preparation of District Plans, as discussed in section 9.1.3 below.

9.1.3 Integration of the management of land use and air quality

Air quality issues are often closely linked with land use issues. The control of the use of land is a responsibility of territorial authorities under the Act. Territorial authorities, through the inclusion of appropriate provisions in district plans, are therefore able to contribute to achieving the air quality management objectives set out in this Plan and in the Regional Policy Statement for the Wellington Region. In particular:

- Emissions which can have effects on amenity values (particularly odorous discharges and smoke) often only cause an adverse effect if the adjacent land use is sensitive to the discharge. For example, many odours which are common and accepted in rural areas, would be unacceptable in urban areas. District plans could therefore:

  (1) help reduce the potential for this type of effect to arise, by providing incentives or rules encouraging or requiring the segregation of land uses which could be incompatible as a result of their discharges to air;

  (2) encourage or require buffer zones, for example, surrounding odorous activities or adjacent to production land where the spray application of agrichemicals is likely to take place; and

  (3) contain general provisions obliging people undertaking land use activities to avoid nuisance effects on adjacent land uses.

- Some discharges of contaminants to air are very closely tied to activities relating to the use of land. For example, emissions of dust are a common effect of earthworks, quarrying or housing developments. Because dust emissions are so closely tied to land uses and can adversely affect amenity values, these emissions are more appropriately dealt with through district plan provisions and land use consents.
- Land use planning can affect the types and quantities of emissions produced in an area. For example, planning which reduces vehicle congestion will also reduce the amount of harmful emissions from motor vehicles. Planning which encourages dispersed development may increase the use of motor vehicles and therefore increase emissions from that source. The effects of these types of activities on air quality therefore need to be considered during the preparation of district plans.

The Council will encourage, where appropriate, the inclusion in district plans of provisions which contribute to air quality management objectives. The Council will also promote a collaborative approach to managing resource consent applications which involve consents for both land use and discharges to air.

9.1.4 Integration with air quality management in the Coastal Marine Area

Air quality in the coastal marine area of the Region is managed through the Regional Coastal Plan prepared by the Council. The Council will ensure that the air quality provisions in the Regional Coastal Plan are consistent with the approach adopted in this plan.

9.2 Procedures for Monitoring the Effectiveness of the Plan

Monitoring the effectiveness of the Plan depends on having good information on the Region's ambient air quality and the distribution and nature of sources of contaminants.

The provisions of Policy 4.2.3 of this Plan (ambient air quality monitoring) are designed to obtain this information. The Plan proposes the development of an ambient air quality monitoring strategy (including an emissions inventory) within four years of the adoption of the Plan. This information will assist the Council to monitor whether the Plan is achieving its objectives. For example, monitoring the air quality in residential areas will help determine whether a stronger approach to the control of domestic sources of emissions is required.

Other sources of information which could be used to monitor the effectiveness of the Plan include:

- complaint statistics (e.g., complaints about odour or other offensive discharges);

- liaison with and feedback from interested groups in the Region (tangata whenua, territorial authorities, farmers, industry etc.);
- monitoring the inclusion of supporting provisions in district plans; and
- information obtained through the resource consent process and the monitoring of compliance with resource consent conditions (including self-monitoring requirements provided for through resource consent conditions).

This last mentioned source of information will help indicate whether the regulatory provisions of the Plan and the policies for assessing resource consent applications are suitable and effective.

Monitoring information on regional air quality will be integrated with other Council environmental monitoring responsibilities in the **Regional Monitoring Strategy**. This consists of a number of initiatives designed to help the Council fulfil its responsibilities under section 35 of the Act and to keep the regional community informed about the state of the environment in the Region. The Regional Monitoring Strategy includes a five yearly comprehensive State of the Environment Report, an annual publication summarising the Council's monitoring activities, regular publications on social and economic trends in the Region, and surveys of people's attitudes about the environment.

9.3 Review of the Regional Air Quality Management Plan

The Council is required to commence a full review of each of its regional plans no later than ten years after each plan becomes operative [section 79 of the Act]. In the intervening period, any person may also request the Council to change a regional plan in accordance with the procedures set out in the First Schedule of the Act [section 65(4)].

The review of certain provisions may take place in response to:

- new information from monitoring which indicates either that activities which are currently regulated should be permitted, or that activities which are currently subject to non-regulatory means of control, should be regulated;
- the identification of any significant new issues related to the discharge of contaminants to air in the Region;
- any relevant national initiatives such as a national policy statement, national standards, or other actions to manage air quality;
- any new legislation dealing with matters addressed in this Plan; or
- the outcomes of the five-yearly report on the Regional Policy Statement.

Because of the relative lack of information on the Region's air quality, and

because this is the first air quality plan prepared for the Wellington Region under the Act, this Plan is a somewhat "interim" document. As more information is obtained, the Council's ability to set appropriate targets and objectives for air quality in the Region will improve and the objectives, policies and methods of the Plan may be reviewed in order to implement more completely an effects-based management regime for air quality.

The Council will undertake a report five years after the Plan has become operative, on:

(1) the appropriateness of the significant issues and objectives in the Plan; and

(2) the effectiveness of the policies and methods (including rules) in meeting the objectives.

The report will contain:

(1) recommendations for any necessary changes to the Plan;

(2) an assessment of the appropriateness of the significant issues and objectives in the light of information from the Council's monitoring programmes and feedback from territorial authorities, resource users, the public or other interested or affected parties. This feedback may come from the media, correspondence, meetings or other means, such as Council research;

(3) an assessment of the appropriateness of the policies, methods, and rules;

(4) an assessment of the degree to which the methods have been implemented; and

(5) an assessment of the degree to which the anticipated environmental outcomes are being achieved.

9.4 The Regional Plan and the Council's Annual Plan

Under the Local Government Act 1974 all local authorities must prepare an annual report (or annual plan) to the public concerning their plans for the financial year. The annual plan must outline the nature and scope of the activities to be undertaken by the organisation over the year, along with the funds required to undertake these activities. Many of the policies and methods contained in this Air Quality Management Plan require the Council to take action, whether this is monitoring ambient air quality, advocacy and education, the processing of resource consents, or other initiatives. The provisions in this Plan will influence the contents of the Council's annual plan and budget.

Conversely, the outcomes of the Council's annual planning and budgetary process will also influence the implementation of the Regional Air Quality Management Plan. In some cases, timeframes are set for completing these tasks. In all cases, the activities proposed for the Council in this Plan will be subject to scrutiny through

the Council's Annual Plan and budgetary process. It is this process which determines overall priorities for the Council's work in the Region, and ensures that all decisions are made within a framework of economic reality.

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Appendices

Appendix 1: Hazardous Air Contaminants

For the context in which Appendix 1 is used, refer to Policy 4.2.9, Rules 11, 12, 13 and 19.

Hazardous Air Pollutants
(Ministry for the Environment, 1994. *Ambient Air Quality Guidelines.* Ministry for the Environment, Wellington.)

The Chemical Abstracts service number merely provides a source of additional information on the substance. It does not specify emission recommendations, as such.

Chemical Abstracts Service Number	Pollutant
75-07-0	Acetaldehyde
60-35-5	Acetamide
75-05-8	Acetonitrile
98-86-2	Acetophenone
53-96-3	2-Acetylaminofluorene
107-02-8	Acrolein
79-06-1	Acrylamide
79-10-7	Acrylic acid
107-13-1	Acrylonitrile
107-05-1	Allyl chloride
92-67-1	4-Aminobiphenyl
62-53-3	Aniline
90-04-0	o-Anisidine
1332-21-4	Asbestos
71-43-2	Benzene
92-87-5	Benzidine
98-07-7	Benzotrichloride
100-44-7	Benzyl chloride
92-52-4	Biphenyl
117-81-7	Bis(2-ethylhexyl)phthalate (DEHP)
542-88-1	Bis(chloromethyl)ether
75-25-2	Bromoform
106-99-0	1,3-Butadiene
156-62-7	Calcium cyanamide
105-60-2	Caprolactam
133-06-2	Captan
63-25-2	Carbaryl
75-15-0	Carbon disulfide
56-23-5	Carbon tetrachloride
463-58-1	Carbonyl sulfide

120-80-9	Catechol
133-90-4	Chloramben
57-74-9	Chlordane
7782-50-5	Chlorine
79-11-8	Chloroacetic acid
532-27-4	2-Chloroacetophenone
108-90-7	Chlorobenzene
510-15-6	Chlorobenzilate
67-66-3	Chloroform
107-30-2	Chloromethyl methyl ether
126-99-8	Chloroprene
1319-77-3	Cresol/cresylic acid (mixed isomers)
95-48-7	o-Cresol
108-39-4	m-Cresol
106-44-5	p-Cresol
98-82-8	Cumene
	2,4-D (2,4-Dichlorophenoxyacetic acid) (including salts and esters)
72-55-9	DDE (1,1-dichloro-2,2-bis(p-chlorophenyl) ethylene)
334-88-3	Diazomethane
132-64-9	Dibenzofuran
96-12-8	1,2-Dibromo-3-chloropropane
84-74-2	Dibutyl phthalate
106-46-7	1,4-Dichlorobenzene
91-94-1	3,3’-Dichlorobenzidine
111-44-4	Dichloroethyl ether (bis[2-chloroethyl]ether
542-75-6	1,3-Dichloropropene
62-73-7	Dichlorvos
111-42-4	Diethanolamine
64-67-5	Diethyl sulfate
119-90-4	3,3’-Dimethoxybenzidine
60-11-7	4-Dimethylaminoazobenzene
121-69-7	N,N-Dimethylaniline
119-93-7	3,3’-Dimethylbenzidine
79-44-7	Dimethylcarbamoyl chloride
68-12-2	N,N-Dimethylformamide
57-14-7	1,1-Dimethylhydrazine
131-11-3	Dimethyl phthalate
77-78-1	Dimethyl sulfate
	4,6-Dinitro-o-cresol (including salts)
51-28-5	2,4-Dinitrophenol
121-14-2	2,4-Dinitrotoluene
123-91-1	1,4-Dioxane (1,4-Diethyleneoxide)

122-66-7	1,2-Diphenylhydrazine
106-89-8	Epichlorohydrin (1-Chloro-2,3-epoxypropane)
106-88-7	1,2-Epoxybutane
140-88-5	Ethyl acrylate
100-41-4	Ethylbenzene
51-79-6	Ethyl carbamate (urethane)
75-00-3	Ethyl chloride (Chloroethane)
106-93-4	Ethylene dibromide (Dibromoethane)
107-06-2	Ethylene dichloride (1,2-Dichloroethane)
107-21-1	Ethylene glycol
151-56-4	Ethyleneimine (Aziridine)
75-21-8	Ethylene oxide
96-45-7	Ethylene thiourea
75-34-3	Ethylidene dichloride (1,1-Dichloroethane)
50-00-0	Formaldehyde
76-44-8	Heptachlor
118-74-1	Hexachlorobenzene
87-68-3	Hexachlorobutadiene
	1,2,3,4,5,6-Hexachlorocyclohexane (all stereo isomers, including lindane)
77-47-4	Hexachlorocyclopentadiene
67-72-1	Hexachloroethane
822-06-0	Hexamethylene diisocyanate
680-31-9	Hexamethylphosphoramide
110-54-3	Hexane
302-01-2	Hydrazine
7647-01-0	Hydrochloric acid (Hydrogen chloride [gas only])
7664-39-3	Hydrogen fluoride (Hydrofluoric acid)
123-31-9	Hydroquinone
78-59-1	Isophorone
108-31-6	Maleic anhydride
67-56-1	Methanol
72-43-5	Methoxychlor
74-83-9	Methyl bromide (Bromomethane)
74-87-3	Methyl chloride (Chloromethane)
71-55-6	Methyl chloroform (1,1,1-Trichloroethane)
78-93-3	Methyl ethyl ketone (2-Butanone)
60-34-4	Methylhydrazine
74-88-4	Methyl iodide (Iodomethane)
108-10-1	Methyl isobutyl ketone (Hexone)
624-83-9	Methyl isocyanate
80-62-6	Methyl methacrylate
1634-04-4	Methyl tert-butyl ether
101-14-4	4,4’-Methylenebis (2-chloroaniline)
75-09-2	Methylene chloride (Dichloromethane)

101-68-8	4,4’-Methylenediphenyl di-isocyanate (MDI)
101-77-9	4,4’-Methylenedianiline
91-20-3	Naphthalene
98-95-3	Nitrobenzene
92-93-3	4-Nitrobiphenyl
100-02-7	4-Nitrophenol
79-46-9	2-Nitropropane
684-93-5	N-Nitroso-N-methylurea
62-75-9	N-Nitrosodimethylamine
59-89-2	N-Nitrosomorpholine
56-38-2	Parathion
82-68-8	Pentachloronitrobenzene (Quintobenzene)
87-86-5	Pentachlorophenol
108-95-2	Phenol
106-50-3	p-Phenylenediamine
75-44-5	Phosgene
7803-51-2	Phosphine
7723-14-0	Phosphorus
85-44-9	Phthalic anhydride
1336-36-3	Polychlorinated biphenyls (Aroclors)
1120-71-4	1,3-Propane sultone
57-57-8	beta-Propiolactone
123-38-6	Propionaldehyde
114-26-1	Propoxur (Baygon)
78-87-5	Propylene dichloride (1,2-Dichloropropane)
75-56-9	Propylene oxide
75-55-8	1,2-Propylenimine (2-Methylaziridine)
91-22-5	Quinoline
106-51-4	Quinone (p-Benzoquinone)
100-42-5	Styrene
96-09-3	Styrene oxide
1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin
79-34-5	1,1,2,2-Tetrachloroethane
127-18-4	Tetrachloroethylene (Perchloroethylene)
7550-45-0	Titanium tetrachloride
108-88-3	Toluene
95-80-7	Toluene-2,4-diamine
584-84-9	2,4-Toluene diisocyanate
95-53-4	o-Toluidine
8001-35-2	Toxophene (Chlorinated camphene)
120-82-1	1,2,4-Trichlorobenzene
70-00-5	1,1,2-Trichloroethane
79-01-6	Trichloroethylene
95-95-4	2,4,5-Trichlorophenol
88-06-2	2,4,6-Triclorophenol
121-44-8	Triethylamine

1582-09-8	Trifluralin
540-84-1	2,2,4-Trimethylpentane
108-05-4	Vinyl acetate
593-60-2	Vinyl bromide
75-01-4	Vinyl chloride
75-35-4	Vinylidene chloride (1,1-Dichloroethylene)
1330-20-7	Xylene (mixed isomers)
95-47-6	o-Xylene
108-38-3	m-Xylene
106-42-3	p-Xylene

Antimony Compounds
Arsenic Compounds (inorganic including arsine)
Beryllium Compounds
Cadmium Compounds
Chromium Compounds
Cobalt Compounds
Coke Oven Compounds
Cyanide Compounds[1]
Glycol ethers[2]
Lead Compounds
Manganese Compounds
Mercury Compounds
Fine mineral fibres[3]
Nickel Compounds
Polycyclic Organic Matter[4]
Radionuclides (including radon)[5]
Selenium Compounds

NOTE: For all listings above which contain the word “Compounds” and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (ie antimony, arsenic, etc) as part of that chemical’s infrastructure.

[1]‘X’CN where X = H’ or any other group where a formal dissociation may occur. For example, KCN or Ca (CN)2

[2]$R\text{-}(OCH_2CH_2)_n\text{-}OR'$
where:
n = 1,2 or 3
R = alkyl C7 or less
or R = phenyl or alkyl

substituted
phenyl
R’ = H, or alkyl
C7 or less
or ester, sulphate,
phosphate,
nitrate,
sulphonate

[3]Includes mineral fibre emissions from facilities manufacturing or processing glass, rock, or slag fibres (or other mineral derived fibres) of average diameter 1 micrometre or less.

[4]Includes substituted and/or unsubstituted polycyclic aromatic hydrocarbons and aromatic heterocyclic compounds, with two or more fused rings, at least one of which is benzenoid (i.e. containing six carbon atoms and is aromatic) in structure. Polycyclic Organic Matter is a mixture of organic compounds containing one or more of these polycyclic aromatic chemicals. Polycyclic Organic Matter is generally formed or emitted during thermal processes including:
(1) incomplete combustion,
(2) pyrolysis
(3) the volatilization, distillation or processing of fossil fuels or bitumens or
(4) the distillation or thermal processing of non-fossil fuels.

[5]A type of atom which spontaneously undergoes radioactive decay.

Appendix 2: Regional Ambient Air Quality Guidelines

For the context in which Appendix 2 is used, refer to Policies 4.2.1 and 4.2.2 and section 7.2.1 of the Plan.

Indicator	Maximum Desirable Level	Maximum Acceptable Level	Averaging Times	Techniques for Measurement
Particulates		50 µg/m³	24 hours	S 40 CFR Part 50 Appendix J
		20 µg/m³	Annual	US 40 CFR Part 50 Appendix J
Carbon Monoxide	6 mg/m³	10 mg/m³	8 hours	AS 3580.7.1
Lead		0.5-1 µg/m³	3 months	AS 2800-1985
Nitrogen Dioxide	95 µg/m³	300 µg/m³	1 hour	AS 3580.5.1-1995
	30 µg/m³	100 µg/m³	24 hours	
Fluoride	**Special Land Use**			
		1.8 µg/m³	12 hours	AS 3580.1.13.1-1993
		1.5 µg/m³	24 hours	AS 3580.13.2-1991
		0.8 µg/m³	7 days	
		0.4 µg/m³	30 days	
		0.25 µg/m³	90 days	
	General Land Use			
	1.8 µg/m³	3.7 µg/m³	12 hours	AS 3580.13.1-1993
	1.5 µg/m³	2.9 µg/m³	24 hours	AS 3580.13.2-1991
	0.8 µg/m³	1.7 µg/m³	7 days	
	0.4 µg/m³	0.84 µg/m³	30 days	
	0.25 µg/m³	0.5 µg/m³	90 days	
	Conservation Areas			
		0.1 µg/m³	90 days	
Hydrogen Sulphide	1 µg/m³	7 µg/m³	30 minutes	AS 3580.8.1-1990
Ozone	100 µg/m³	150 µg/m³	1 hour	AS 3580.5.1-1993
		100 µg/m³	8 hours	
Sulphur Dioxide		500 µg/m³	10 minutes	AS 3580.8.1-1990
		350 µg/m³	1 hour	
		125 µg/m³	24 hours	
		50 µg/m³	Annual	

µg - Micrograms
mg - Milligrams
AS - Australian Standard

Appendix 3: Guidelines for Setting Chimney Heights

Chimney Height Assessment Criteria

In exercising its discretion with regard to chimney heights, especially with regard to Rule 7, and for heating and electrical generating processes which require a resource consent, the Regional Council will be guided by the following criteria:

(a) 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 will be determined in accordance with the following criteria.

  (i) For any discharge from the combustion of fuel where the release of sulphur dioxide is less than 2 kg/hr, the minimum chimney height shall be the higher of either eight metres above finished ground level or three 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.

  (ii) For any discharge from the combustion of fuel, where the release of nitrogen oxides is less than 0.5 kg/hour the minimum chimney height shall be the higher of either eight metres above finished ground level or three 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.

  (iii) For any discharge from the combustion of fuels where the emission of sulphur dioxide is greater than or equal to 2 kg/hour or less than 50 kg/hour or the emission of nitrogen oxides is greater than or equal to 0.5 kg/hour and less than 20 kg/hour then the chimney height shall be calculated in accordance with a standard guideline such as the UK Memorandum (Department of the Environment, 1981), the NZ Guidelines for Determining Chimney Heights (Rolfe, 1978), or the New South Wales Guidelines (EPA, 1993), or other relevant guidelines.

(b) In other circumstances, the height of the chimney is to be determined so that the discharge will not give rise to ground level concentrations of contaminants in excess of 50 percent of the maximum desirable level in the Regional Ambient Air Quality Guidelines (Appendix 2) and based on information from dispersion modelling.

Appendix 4: Guidelines for the On-Farm Burning of Agrichemical Containers

(Adapted from: British Agrichemical Association, 1998. *After Spraying Container Incineration: A Practical Guide*. British Agrichemical Association, Cambridgeshire, United Kingdom.)

Container preparation

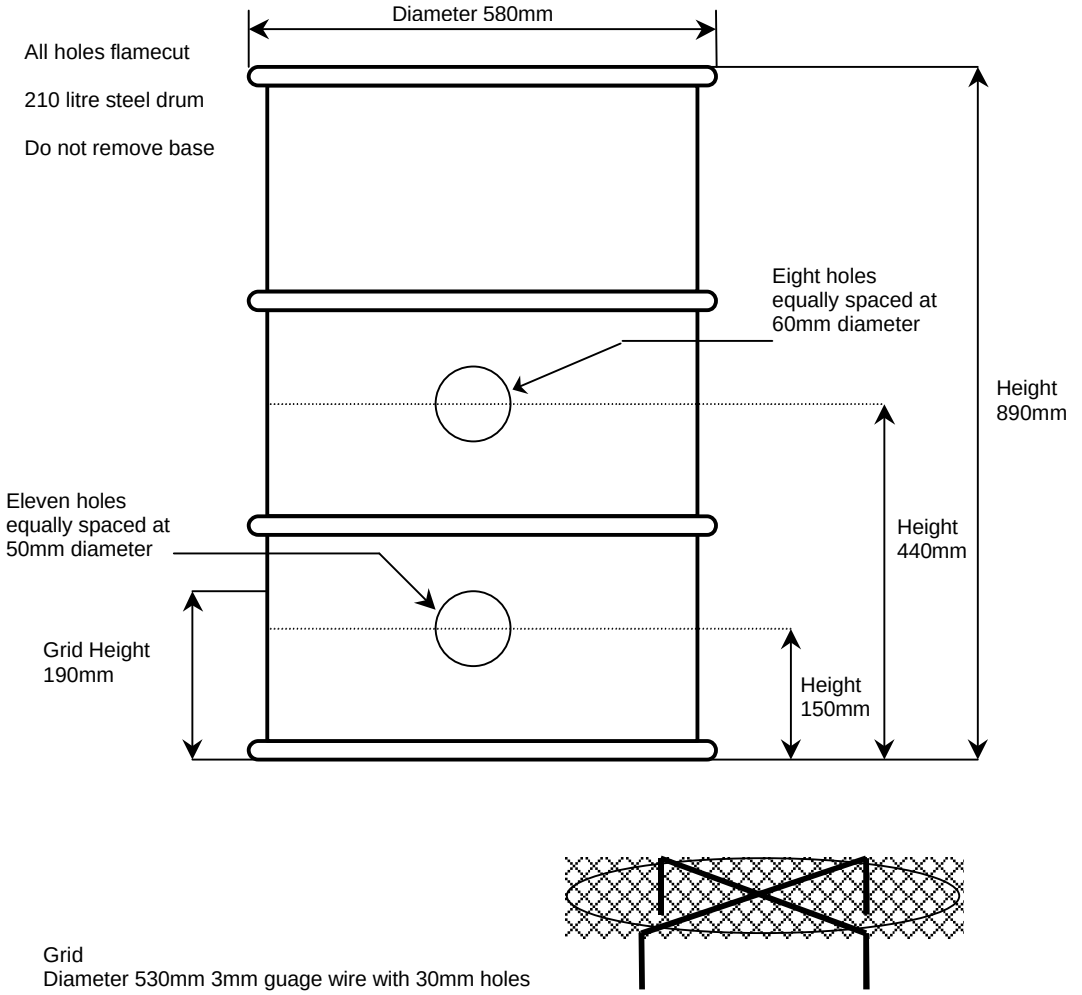
- Disposal of unused agrichemicals is not addressed in these guidelines.
- Thoroughly clean all containers before disposal.
- Triple rinse and drain all containers, then recap and return them to their cardboard case. Either collect washings in a spray tank, or discharge to soil. To triple rinse, fill the container to 10% of its capacity with water, agitate vigorously, and drain for at least 30 seconds after steady flow has ceased. Repeat three times.
- Puncture cleaned containers to prevent re-use.
- Store prepared containers in a dry, secure compound prior to disposal.

Means of disposal

- Before disposing of containers, check whether they can be recycled or returned to the supplier or manufacturer. Note that Deadly Poison containers must be disposed of in accordance with the provisions of the Toxic Substances Regulations.
- Do not reuse agrichemical containers to store any substance for human or animal consumption.
- If recycling or return to the manufacturer is not possible, containers can be taken to a local authority landfill or burned.
- Do not burn plastics with halogen or phosphorous components without first obtaining a resource consent from the Wellington Regional Council.
- Burning should be carried out in accordance with the guidelines listed below.

Incinerator design

Make an incinerator using a 210 litre steel drum, in accordance with the diagram below.



Incinerator management

- Burn small amounts of plastic on a regular basis, rather than large amounts at one time (see ‘recommended work rates’).
- Locate the incinerator away from roads, livestock, domestic houses, farm buildings, watercourses and sensitive ecosystems.
- Ensure incinerators are not near to any combustible materials such as, wood, straw, fertiliser and the material to be burned.
- Place incinerators on a firm level surface or a concrete pad.
- Keep a water carrier close at hand.

Recommended work rates

- Start the fire with one case of containers, including the cardboard case. Place a diesel soaked rag or fire lighter in the centre of the case and ignite.
- After 5 minutes of start up time, add further containers at a rate of 30 – 40 containers / 30 minutes.
- The incinerator will burn vigorously for 5-10 minutes, then will reduce to glowing embers about 30 minutes, after the last case is added.

Managing the incinerator

- Supervise the incinerator at all times.
- Take great care when approaching or loading the incinerator, as the fire will become extremely hot.
- When filling the incinerator, approach from upwind to avoid the flames and smoke. Avoid breathing any smoke or fumes. Thick leather protective gloves are a recommended precaution.
- To minimise dark smoke and for easier handling, add full "cases" of containers. Adding plastic containers alone increases the risk of dark smoke.
- Do not overfill the incinerator, as this tends to decrease its efficiency, and increases the risk that burning ash/cardboard can fly away. Wait until there is sufficient room to hold at least 90% of the material you are adding.
- Avoid poking the fire. This should not be necessary and will increase the risk of generating dark smoke.

Disposal of ash

The residual ash from burning is retained in the drum. Turn the drum upside down to remove the ash, then dispose either by soil incorporation, burial, or through normal solid waste disposal routes.