

Part 2

Air Quality

4 Air Quality

4.1 Introduction and Principal Reasons

4.1.1 Statutory Framework

Section 15 of the RMA controls the discharge of contaminants into air. Section 15(1) means that any discharge of a contaminant into air from any industrial or trade **premises** in the Auckland Region is allowed only if it is expressly authorised by a rule in this plan, a resource consent or by regulations.

Under Section 15(2) the opposite presumption applies to discharges of contaminants into air from any other source: that is, unless there is a relevant rule in this plan, discharges of contaminants into air from sources other than industrial or trade **premises** can take place without a resource consent from the regional council.

Therefore, without this plan, discharges of contaminants into air from industrial or trade **premises**, no matter how minor, require resource consents, while possibly significant discharges from other sources do not. A key function of this plan therefore will be to allow minor discharges into air from industrial and trade **premises** that are unlikely to have any significant adverse effects, and to regulate other discharges that may have significant adverse effects.

Air quality can also be affected by the use of land and by discharges of contaminants into air or onto land from that use. Section 31 of the RMA assigns the role of controlling any actual or potential effects of land use on the environment (including air) to **Territorial Authorities**. District plans may therefore contain provisions regulating land use to manage air quality. Such provisions must not be inconsistent with this plan.

The air quality provisions set out in Chapter 4 of this Plan apply to the entire Auckland Region, including the coastal marine area, and therefore this chapter forms part of the Auckland Regional Plan: Coastal. The general objectives and policies of the Auckland Regional Plan: Coastal should be considered when assessing the discharge of contaminants into air in the coastal marine area.

In addition, the provisions of the Resource Management (Marine Pollution) Regulations 1998 are relevant to discharges into air within the coastal marine area which occur as part of normal operations of ships or offshore installations. Regulation 16 provides that no rule may be included in an operative or proposed regional coastal plan, or a resource consent, relating to discharges which are the subject of regulations 9, 10 and 12-15. Regulation 15 provides that any person may discharge in the coastal marine area, a contaminant that is incidental to, or derived from, or generated during an operation listed in Schedule 4 as the normal operation of a ship or offshore installation. Schedule 4 lists, relevantly, ship propulsion, heat exchange systems and the incineration of **waste** or other matter generated from a ship or offshore installation.

4.1.2 Scope of Chapter

This chapter deals with the discharge of contaminants into air from any type of activity. The primary activities addressed in this chapter are:

- Mobile Sources;
- Domestic Fires;
- Outdoor Burning;
- Other Discharges of Contaminants into Air; and
- Global Air Quality.

4.1.3 Factors Affecting Air Quality

Air pollution levels depend on the amount of pollution produced, the rate at which the pollution disperses and chemical reactions in the air. Air quality worsens in light wind conditions, as contaminants cannot be blown away. Monitoring indicates that the worst pollution occurs on virtually calm days and during cold winter days when contaminants are trapped close to the ground by an *inversion layer*. Under these conditions a brown haze can often be seen over the city.

Air pollution levels are affected by the weather and topography, so levels can vary considerably around the region. Contaminants can accumulate in sheltered valleys and also in the central business district, where tall buildings cause canyons which can trap contaminants.

4.1.4 Auckland Regional Air Quality Targets and The National Environmental Standards for Ambient Air Quality

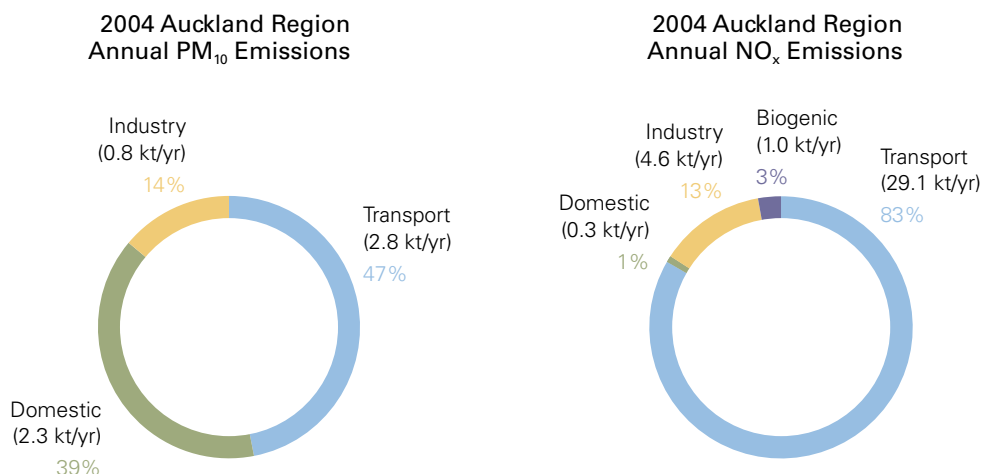
The management approach to protect human health in the Auckland Region from *ambient air pollution* has been to select key pollutants as indicators, by utilising the *National Environmental Standards for Ambient Air Quality* and setting additional complementary Auckland Regional Air Quality Targets. Table 4.1 sets out the *National Environmental Standards for Ambient Air Quality* and Table 4.2 specifies Auckland Regional Air Quality Targets.

The standards are quoted directly from the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins and Other Toxics for Air Quality) Regulations 2004 (AQNES). The targets are based on Ministry for the Environment's *Ambient Air Quality Guidelines* (2002) and internationally recognised standards and guidelines.

The primary purpose of *National Environmental Standards for Ambient Air Quality* and the Auckland Regional Air Quality Targets is to provide a guaranteed level of protection for the health of all Aucklanders. Where ambient levels do not breach the standards or targets, efforts should be made to maintain good air quality and, if possible, reduce emissions. This is particularly important for those pollutants where 'no observable adverse effects levels' (NOAEL) have not been identified, such as particles less than 10 microns in diameter (PM_{10}), particles less than 2.5 microns in diameter ($PM_{2.5}$) and ozone (O_3).

The major sources of *ambient air* pollution in the Auckland urban areas are motor vehicles and domestic fires. The 2004 Auckland Air Emissions Inventory gives the relative contributions of all sources; these are shown in the Figure 4.1.

Figure 4.1 Emissions of PM_{10} and NO_x in the Auckland Region (2004)



4.1.4.1 National Environmental Standards for Ambient Air Quality

The *National Environmental Standards for Ambient Air Quality* list several *ambient air* pollutants and the concentration levels that must be complied with. The AQNES also includes a permissible number of exceedences of the concentration limit per year. Irrespective of this Plan these standards must be complied with throughout New Zealand; including the Auckland Region.

These standards have not been promulgated by ARC: they are national regulations under the RMA and can only be changed by the Ministry for the Environment by Gazette Notice. Should a Gazette Notice amend the AQNES, any consequential amendments to Table 4.1 will be made under Clause 16 of the First Schedule of the RMA without further formality.

Table 4.1 National Environmental Standards for Ambient Air Quality
(from the AQNES)

All Areas	Contaminant	Standard	Averaging Time	Number of permissible exceedences per year
National Environmental Standards for Ambient Air Quality	Particles (PM ₁₀)	50mg/m ³	24 hour	one
	Carbon monoxide (CO)	10mg/m ³	8 hours (running mean)	one 8-hour period
	Nitrogen dioxide (NO ₂)	200µg/m ³	1 hour	nine
	Ozone	150µg/m ³	1 hour	zero
	Sulphur dioxide (SO ₂)	350µg/m ³	1 hour	nine
	Sulphur dioxide (SO ₂)	570µg/m ³	1 hour	zero

4.1.4.2 Auckland Regional Air Quality Targets

The approach for managing *ambient air* quality pollutants in Auckland is completed by the Auckland Regional Air Quality Targets, which cover ambient pollutants or averaging periods that are not included within the *National Environmental Standards for Ambient Air Quality*. Unlike the AQNES, the targets do not include a permissible number of exceedences.

Table 4.2 Auckland Regional Air Quality Targets

All Areas	Contaminant	Target	Averaging Time
Auckland Regional Air Quality Targets	Particles (PM _{2.5})	25µg/m ³	24 hour
	Particles (PM ₁₀)	20µg/m ³	Annual
	Nitrogen dioxide (NO ₂)	100µg/m ³	24 hour
	Carbon monoxide (CO)	30µg/m ³	1 hour
	Sulphur dioxide (SO ₂)	120µg/m ³	24 hour
	Ozone	100µg/m ³	8 hour
	Lead	0.2µg/m ³	3 month moving average calculated monthly
	Benzene (year 2002)	10 µg/m ³	Annual
	Benzene (year 2010)	3.6 µg/m ³	Annual
	1,3-Butadiene	2.4 µg/m ³	Annual
	Formaldehyde	100 µg/m ³	30 minutes
	Acetaldehyde	30 µg/m ³	Annual
	Benzo(a)pyrene	0.0003 µg/m ³	Annual
	Mercury (inorganic)	0.33 µg/m ³	Annual
	Mercury (organic)	0.13 µg/m ³	Annual
	Chromium VI	0.0011 µg/m ³	Annual
	Chromium metal and Chromium III	0.11 µg/m ³	Annual
	Arsenic (inorganic)	0.0055 µg/m ³	Annual
Arsine	0.055 µg/m ³	Annual	

4.1.4.3 Air Quality Management using the National Environmental Standards for Ambient Air Quality and Auckland Regional Air Quality Targets

The standards and targets support the objectives and policies in this plan and aim to maintain air quality in areas of the Auckland Region where it is already good, and enhance air quality in areas of the Auckland Region where it is degraded or unacceptable and currently breaches the standards or targets.

Extensive monitoring of PM₁₀, PM_{2.5}, NO₂, O₃ and CO has been undertaken in the Auckland Region. This monitoring demonstrates that air quality is better in coastal and rural areas than in **urban areas**.

The air quality goals for the Auckland Region are:

- To maintain, and where necessary enhance, air quality so that no breaches of the **National Environmental Standards for Ambient Air Quality** (i.e. no more than the permissible number of exceedences) occur at any location within the Urban or Industrial Air Quality Management Areas.
- To maintain, and where necessary enhance, air quality so that no exceedences of the Auckland Regional Air Quality Targets occur at any location within the Urban or Industrial Air Quality Management Areas.
- To maintain **ambient air** quality in Coastal and Rural Air Quality Management Areas at current good or excellent levels.

The standards and targets are not intended to be an “allowable level to pollute up to”; they are minimum requirements. Air quality should be maintained where it is already better than the standards and targets, and enhanced where it does not meet the standards and targets, in accordance with Objective 4.3.2. The AQNES also requires that air quality must be enhanced where it does not meet the standards; as the standards must be complied with.

In order for Auckland Region's **urban areas** to have no breaches of the standards or targets, NO_2 , PM_{10} and $\text{PM}_{2.5}$ emissions from **domestic fires** and **mobile sources**, in particular motor vehicles, need to decrease significantly.

The standards and targets are intended to apply anywhere in the Air Quality Management Areas where members of the public may realistically be exposed for the relevant averaging period. For example, the standards and targets apply in areas that are representative of places where people live, work and play or might regularly be exposed. These may include worst case exposure situations such as the CBD, roadsides (including kerbsides and footpaths), Industrial Air Quality Management Areas, or in residential valleys subject to inversion conditions.

The ARC will monitor **ambient air** quality within the Air Quality Management Areas at monitoring sites that are considered to be representative of a range of exposure situations. For example to monitor compliance within the Urban Air Quality Management Areas monitoring will be undertaken at sites in the region which are considered to be typical of residential and commercial areas. These sites will also include a range of exposure situations such as residences close to busy roads or those in more isolated suburbs. Monitoring will be undertaken according to the recommendations in MfE's **Ambient Air Quality Guidelines** and MfE's Ambient Air Quality Good Practice for Monitoring and Data Management.

The regional air quality standards and targets will not be used as compliance conditions at the **boundary** of industrial sites. However, the standards and targets will be used as a matter for consideration in assessing any consent application that is likely to increase regional PM_{10} , $\text{PM}_{2.5}$ or NO_2 **ambient air** quality levels, on a case by case basis. Motor vehicles and **domestic fires** are the principle sources of **ambient air** pollution in Auckland. Recognition will be given to the relative contribution any industry makes to the regional **ambient air** quality levels in this context.

4.1.5 Air Quality Management Approach

The Air Quality chapter provides for the discharge of contaminants into air and addresses activities that have a significant actual or potential effect on air quality.

The discharges from these activities can be divided broadly into two categories:

- Discharges that have the potential to cause localised adverse effects.
- Discharges that have minor adverse effects when considered in isolation, but can have a significant cumulative or synergistic adverse effect on air quality.

The use of land can impact on the ability to manage the effects from the discharge of contaminants into air.

4.1.5.1 Discharges with Primarily Localised Adverse Effects

Discharges from **outdoor burning**, the application of **agrichemicals**, and industrial **processes** have the potential to cause localised adverse effects. These discharges can be directly attributed to an individual source, and in the majority of cases these discharges have been regulated to some extent for many years.

The approach taken to manage localised adverse effects is to permit all discharges with minor or no adverse effects subject to conditions. Activities that have, or have the potential to have significant adverse effects are managed by specific rules in the plan. These include:

- **Outdoor burning**, which over the years has resulted in a high level of public complaints due to smoke and odour nuisance;
- The application of **agrichemicals** which can cause nuisance, damage to crops and human health effects;

- Activities including industrial *processes* which need to be carefully controlled due to:
 - i. The actual or potential human health effects from the discharge;
 - ii. The high potential for public complaints, in particular in relation to odour and dust nuisance; and
 - iii. The high risk associated with any uncontrolled discharge to air.

4.1.5.2 Activities with Primarily Cumulative Adverse Effects

Motor vehicles and *domestic fires* are the two largest regional sources of air pollution in the Auckland Region. Although both sources have the potential to cause adverse effects such as smoke and odour on the local environment, their largest impact is the cumulative adverse effects they have on air quality and public health. In 2004 motor vehicles accounted for 47% of total ambient PM₁₀ levels in Auckland with *domestic fires* accounting for 39% annually and 64% in winter.

Volatile organic compounds (VOCs) are becoming an increasing problem with the largest source also being motor vehicles but there are a number of uncontrolled sources, such as ventilation and displacement from bulk storage tanks.

The approach taken to manage discharges with cumulative adverse effects from motor vehicles, *domestic fires* and *greenhouse gases* and *ozone depleting substances* is to generally permit these discharges and to encourage best practice and educate the community on methods to minimise any discharges. For some of these activities minimising the discharge of contaminants into air through regulation is more effectively undertaken at a national level rather than on a regional level.

A key method of minimising the discharge of contaminants into air is through the adoption of energy efficient activities. The key areas where this can occur are *domestic heating* and the use of the private motor vehicle. Reducing these discharges into air by educating the community and promoting best practice can have significant co-benefits for very little or no cost to the consumer.

Management of emissions from motor vehicles and *domestic fires* is a relatively new area in New Zealand, and it is only relatively recently that monitoring has identified a significant air quality problem resulting from these emissions in the Auckland Region. Based on the results of *ambient air* quality monitoring and the Auckland Regional Emissions Inventory, we know that significant reductions in motor vehicle and domestic fire emissions will be required in order to meet the *National Environmental Standards for Ambient Air Quality* and the Auckland Regional Air Quality Targets. In addition, particular measures need to be taken to avoid the formation of photochemical smog in the region. The formation of smog is a complex reaction between volatile organic compounds (VOCs) and nitrous oxides in the presence of UV light. As Auckland is "VOC-sensitive" any measures that reduce cumulative VOC emissions should result in reduced smog formation.

The most appropriate measures to manage emissions from motor vehicles and *domestic fires* have not been fully evaluated. A number of methods to manage these emissions have been proposed in this Plan, however these provisions are seen as a starting point. These measures rely primarily on gradual improvement over time, supporting existing measures, and improved public awareness. In addition to these measures the development of an Auckland Regional Air Quality Management Strategy will enable a better understanding of impacts on air quality from cumulative sources and enable us to take further actions and assess the results of these actions.

4.1.5.3 Adverse Effects on Air Quality due to Land Use

Adverse effects from air quality can be exacerbated by land use. Population growth within the Auckland Region is intensifying pressure on competing and incompatible land uses. The inappropriate location of activities that discharge contaminants into air and the inappropriate location of parties sensitive to those activities (**reverse sensitivity**) can aggravate any adverse effects from the discharge of contaminants into air. The Air Quality Management Areas described in Chapter 3 are intended to help address this issue. However, it is recognised that there are existing activities that discharge contaminants into air, particularly within the Urban Air Quality Management Areas, that may have adverse effects that need to be managed. Integrated management between the ARC and TAs is necessary so that the effects from competing and incompatible land uses and discharges into air are considered in the decision-making process.

4.1.6 Regional Air Quality Management Strategy

In order to meet the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets it is likely that further measures to reduce emissions from motor vehicles and **domestic fires** will be required. The purpose of the Auckland Regional Air Quality Management Strategy will be to quantify the reductions that are required as accurately as possible, to evaluate the options, including costs and benefits, and to specify actions. This process will involve the following steps:

- Ongoing **ambient air** quality and meteorological monitoring at sites that are representative of Urban, Rural and Industrial Air Quality Management Areas;
- Regular review of the Auckland Regional Emissions Inventory, which identifies key sources and how they change over space and time;
- Atmospheric dispersion modelling studies and exposure assessments to determine the spatial extent and frequency of areas where pollution levels exceed target values and their impacts;
- Analysis of current trends and projection for future trends in emissions;
- Analysis of the options for improving air quality and their cost effectiveness; and
- Determining community views on the desirable level of air quality and the options for improving it.

Measures to improve regional air quality are likely to involve a wide range of participation from stakeholders and the wider community. The Auckland Regional Air Quality Strategy will be developed in partnership with key stakeholders to ensure that actions identified through the strategy are practicable, efficient and effective. The Air chapter of this plan may be reviewed in 2006 to determine progress towards the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets to consider whether further regional rules relating to motor vehicles, **domestic fires** or other sources are required.

4.1.7 Mobile Sources

Mobile sources, in particular motor vehicles, are the largest source of air pollution in the Auckland Region. The Auckland Regional Emissions Inventory suggests that motor vehicles are responsible for 70-80% of total emissions discharged into Auckland Region's air. Emissions from vehicles include carbon dioxide, carbon monoxide, nitrous oxides, particulate and **hazardous air pollutants** such as benzene.

Vehicle emissions are linked to a number of health effects including cardiovascular and respiratory diseases such as angina, asthma and lung cancer. A recent (2002) Ministry of Transport study estimates that air pollution is responsible for 486 premature deaths in the Auckland Region, with 253 premature deaths attributable to PM₁₀ emissions from vehicles. A Ministry for the Environment (2003) report estimates that there are 435,000 restricted activity days per year in the Auckland Region attributable to the adverse effects of motor vehicle emissions.

Parts of the Auckland Region experience relatively frequent (46 days in 1999) breaches of acceptable **ambient air** quality levels for carbon monoxide and nitrogen dioxide close to busy roads. These breaches are attributable to motor vehicle emissions and usually occur during periods of calm weather and vehicle congestion.

Breaches of acceptable levels for particulate matter have also been recorded at peak traffic sites as well as sites further away from busy roads. Motor vehicle emissions are a significant contributor to these high particulate levels, along with domestic fire and industrial emissions. The particulate emissions from motor vehicles largely result from diesel vehicles, and these emissions are increasing as a consequence of the increasing number of diesel vehicles on our roads.

Elevated ozone concentrations are measured downwind of central Auckland's **urban areas**. There is the potential for breaches of acceptable levels of ozone to occur in the Auckland Region under certain weather conditions, particularly if vehicle emissions continue to increase.

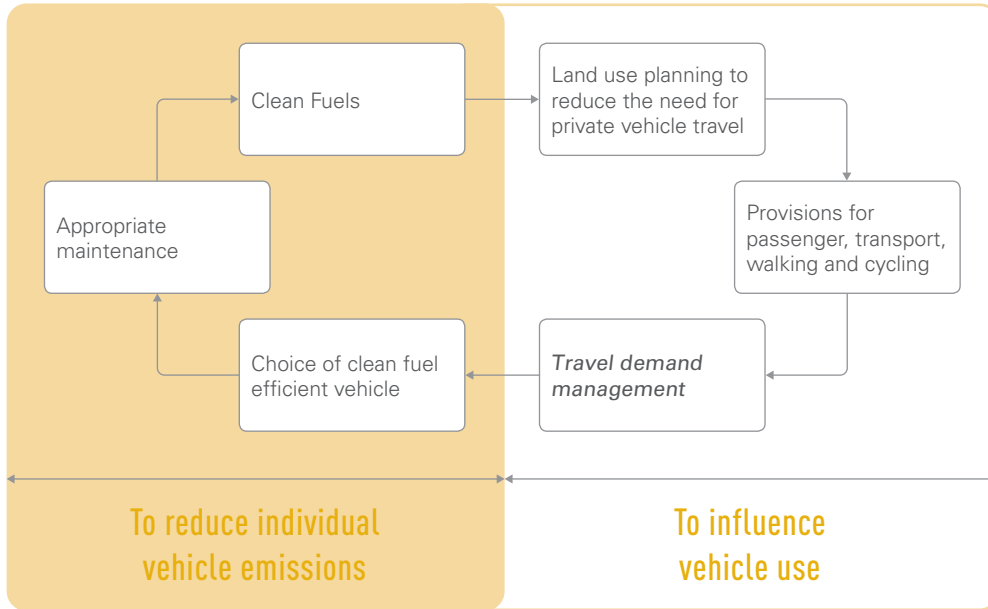
The Auckland Regional Growth Strategy (1999) recognises that a doubling of the Region's population by the year 2050 will have major impacts on the transport system and that major transport improvements are needed. It also recognises that these will have significant environmental and community implications. Car use is growing by around 4% per annum and vehicle use, especially under congested conditions, is a major source of pollution.

Reducing or managing vehicle pollution requires a comprehensive strategy that addresses all of the elements illustrated below. The Auckland Regional Growth Strategy envisages a shift in land-use patterns toward a more compact urban form which focuses growth along passenger transit corridors and main arterial roads. The key elements of the Auckland Regional Land Transport Strategy (2003) (RLTS) (a key tool for implementing the Auckland Growth Strategy) include:

- Passenger transport investment in bus, ferry and rail. Key projects outlined in the RLTS 2003 include completion of the North Shore Busway, Rail Rapid Transit in the Western, Southern and Isthmus Rail Corridors and an extension to Manukau City Centre, and high quality ferry services linking coastal suburbs adjacent to the Waitemata Harbour with the Downtown Ferry Terminal;
- Completion of major roading projects within the Region's main transport corridor; and
- **Travel demand management (TDM)** measures to reduce the need for vehicle travel by influencing and changing travel behaviour - when, how or whether a person travels. Key TDM projects include developing initiatives to encourage ride-sharing (car pooling), supporting travel planning programmes and implementing strategies to improve walking and cycling in the region.

These land use and transport management measures are particularly important because any improvements in individual vehicle emissions may be offset by growth in vehicle usage and congestion. A modern car with clean fuel and emission control systems can still produce more pollution under congested conditions than a 10-year-old car driving in uncongested conditions. Figure 4.2 below shows the elements of a comprehensive vehicle pollution strategy and how all the different motor vehicle, transport and land use issues interrelate. Figure 4.3 sets out measures to influence vehicle use in the Auckland Region.

Figure 4.2 Elements of a comprehensive vehicle pollution control strategy



Note: **Travel Demand Management** includes: flexible working hours, tele-working, ride sharing, parking controls, road pricing, integrated traffic management, education and marketing.

Figure 4.3 Policy environment that influences vehicle use in the Auckland Region



There are few mandatory controls on motor vehicles at present in spite of a rapid growth in numbers. Individual vehicle emissions will reduce over time as more vehicles with clean technology (such as catalytic converters) enter the fleet. However the rate of fleet turnover is slow and, as illustrated by Figure 4.2, clean fuels and good vehicle maintenance are also critical for vehicle emission control. There are currently no requirements for used imported, or in-use vehicles, to have operating emission control equipment, or to meet any maintenance or emissions standards. Central government regulations require that "sulphur free" petrol and diesel be available by 2010. This date could feasibly be brought forward.

Any improvements in average vehicle emissions may be offset by continued growth in motor vehicle travel and increasing congestion. Even though these growth pressures will be greater in the Auckland Region than in most other parts of New Zealand, measures to improve motor vehicle emissions are likely to be more efficiently and effectively implemented at a national level. However, it is recognised that the Plan may not be able to rely on central government regulation and gradual improvement in the Region's vehicle fleet emissions to improve regional air quality. Therefore, in order to meet the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets further regional or local measures to reduce vehicle emissions may be required.

One of the main purposes of the Auckland Regional Air Quality Management Strategy will be to address motor vehicle emissions. It is likely that conflicting priorities in respect of motor vehicles will be identified, and will need to be addressed through the development of the strategy.

4.1.8 Domestic Fires

Approximately one third of all houses in the Auckland metropolitan area and one half of houses in the Auckland Region's rural areas have **domestic fires**. Many of these are open fireplaces (as opposed to dual burners). **Domestic fires**, both solid fuel burning appliances and open fireplaces (e.g. brick fireplaces), are the second largest contributor to the Auckland Region's air pollution and are the largest source of fine particulate during winter. The Auckland Regional Emissions Inventory estimates that on an average winter day 20 tonnes of fine particulate, 140 tonnes of carbon monoxide and 60 tonnes of **hydrocarbons** pour out of our chimneys. Furthermore, it is likely that **domestic fires** significantly degrade visibility. In some areas, such as Henderson and Albany, adverse meteorology and complex topography can increase the localised effects of **domestic fires**.

Domestic fires primarily affect regional **ambient air** quality, however, some contaminants such as odour and smoke cause localised nuisance. Smoke from **domestic fires** also contains formaldehyde, volatile organic compounds and polycyclic aromatic **hydrocarbons**. These compounds can adhere to the fine particulate that are inhaled deeply into our lungs and some may pose a cancer risk with prolonged exposure.

Fine particulate pollution at residential monitoring sites reaches levels that sometimes exceed acceptable **ambient air** quality levels during winter. In 2001, PM₁₀ levels in Mt Eden, Henderson and Takapuna reached 'Alert' levels. In order to meet the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets, a reduction in emissions from **solid fuelled domestic fires** in **urban areas** will be required.

Efficient **domestic fires** and well-insulated houses can significantly reduce discharges of contaminants into air. Alternative forms of heating such as solar power may be a more effective means of heating and therefore should be encouraged.

This plan combines regulatory and non-regulatory means to achieve this reduction. Under the rules of this plan the discharge of contaminants into air from **domestic fires** is a permitted activity, provided that the discharge does not result in significant adverse effects (as described in Rule 4.5.1). From 1 September 2005 the rules require that any new or replacement **solid fuelled domestic fires** in Urban, Coastal Marine and Industrial Air Quality Management Areas be installed in accordance with best practice and manufactured to achieve a particulate emission rate of 4.0 g/kg of fuel burned for appliances without catalytic combustors and 2.25 g/kg for appliances with catalytic combustors in a manner consistent with the requirements of AS/NZS 4013:1999 Domestic Solid Fuel Burning Appliances – Method for Determination of Flue Gas Emissions, or a functional equivalent test method for batch-fed appliances. The ARC will hold a list of approved functional equivalent test methods. This standard includes a maximum allowable appliance particulate emission factor and effectively defines Best Practicable Option for appliance manufacture. Therefore this plan endorses the standard.

The rules will effectively mean that new domestic fire installations in Urban, Coastal Marine and Industrial Air Quality Management Areas unable to comply with a particulate emission rate of 4.0 g/kg of fuel burned for appliances without catalytic combustors and 2.25 g/kg for appliances with catalytic combustors (such as open fires that exhaust straight up through a chimney and have no double burning capacity) will not be permitted from 1 September 2005. **Open fires** even when well operated, are only about 15% efficient and produce much higher levels of pollution than well designed solid fuelled appliances, which are between 50 and 70% efficient.

4.1.9 Outdoor Burning

Outdoor burning and the use of backyard and **single chamber incinerators** are a major source of air pollution in the Auckland Region. The Auckland Regional Emissions Inventory estimates that every year more than 110 tonnes of fine particulate, 600 tonnes of carbon monoxide and 200 tonnes of **hydrocarbons** pour into the air from outdoor fires. Burning of some materials, in particular plastic, rubber, other synthetic materials and heavy metals, can also produce **hazardous air pollutants** such as known **carcinogens**, highly **toxic compounds** such as dioxins, and potentially **mutagenic** and **teratogenic** contaminants. When materials are burnt in the open or in **backyard incinerators** the fire is not hot enough, and does not have sufficient oxygen, to destroy these **hazardous air pollutants**. As well as producing harmful pollutants these fires can also be a nuisance to neighbours (odour, smoke, ash, and soiling of surfaces). Every year in the Auckland Region TAs receive approximately 3000 complaints regarding **outdoor burning** and the use of backyard and **single chamber incinerators**.

Outdoor burning is not appropriate in **urban areas** where neighbours are generally close and alternatives such as rubbish collections and **composting** are available. In the farming environment large quantities of materials (for example **green waste(s)**, dead on-farm animal stock, bale wrap, **agricultural** containers, used oil, tyres, etc) need to be disposed of somewhere. In rural areas because properties are generally large and the population is well dispersed, the burning of some materials including vegetation can be carried out without causing significant adverse effects if best practice is followed. However, the burning of other materials that can result in the production of **hazardous air pollutants** is not appropriate in any location and suitable disposal options need to be used.

The approach in this plan is generally to prohibit outdoor burning and the use of backyard and single chamber incinerators within the Urban and Industrial Air Quality Management Areas and the Coastal Marine Air Quality Management Area, and to permit outdoor burning and the use of backyard and single chamber incinerators in the Rural Air Quality Management Areas. Currently, Auckland City Council and Manukau City Council severely restrict outdoor burning.

There are some circumstances when the discharge of contaminants into air cannot be avoided. These include: the Ministry of Agriculture and Forestry requiring material to be burnt; controlled burning associated with emergency fire training and/or investigation by the NZ Fire Service; circumstances such as required by administrators of the Health Act (1956) where there are no practicable alternatives to burning; or for controlled public displays for celebration purposes such as Guy Fawkes bonfires.

The management of fires including **outdoor burning** is regulated by several pieces of legislation. These pieces of legislation define roles and responsibilities for several agencies in the control and management of fires. The New Zealand Fire Service and the TAs in accordance with the Rural Forest and Fires Act 1977 and the Local Government Act 1974 have jurisdiction over the spread of fire and related safety issues. TAs also have health responsibilities under the Health Act 1956. The RMA, which repealed the Clean Air Act 1972, provides for the consideration of adverse effects from the discharge of contaminants into air from fires, in particular nuisance. All the TAs in the Auckland Region

created **outdoor burning** bylaws under the Clean Air Act 1972, therefore the rules in this plan replace these bylaws. The Ministry for the Environment has developed a National Environmental Standard (NES) for Dioxin in accordance with Sections 43 and 44 of the RMA.

4.1.10 Other Discharges of Contaminants into Air

Many activities or groups of activities such as **industrial or trade processes**, **waste management processes** and production land activities (including **intensive livestock farming**) discharge contaminants into the environment. These discharges can have varying adverse effects on air quality, including odour, dust, particulate, ash and reduced visibility due to smoke or haze. These effects need to be managed and controlled if they become noxious, dangerous, offensive or objectionable.

While these activities contribute to cumulative effects on regional air quality, the focus of this section is on managing the actual or potential effects of activities on their immediate environment. These issues are distinct from the more widespread effects of activities such as motor vehicles and **domestic fires**. The effects from industrial **processes** are often best managed by appropriate location and by adopting the Best Practicable Option, including the application of suitable control technology and appropriate on-site management techniques.

The rules for these types of activities are separated into specific activity classes to make it easier to use the plan. The individual activities for which the plan proposes specific rules are:

- Combustion activities;
- Incineration and cremation;
- Drying and kiln processes;
- Dust generating activities;
- Waste processes;
- Food, animal or plant matter processes;
- Chemical processes;
- Ventilation, displacement or dispensing of **motor fuels**;
- Metallurgical processes; and
- Production land activities and **intensive livestock farming**.

Some of these activities are also dealt with in Chapter 5, Discharges to Land or Water, in particular discussion on the management of adverse effects from **landfills** and contaminated sites.

4.1.11 Global Air Quality

Global air quality is an issue for the Auckland Region as some local and regional activities contribute to an effect on global air quality while changes in global air quality may affect the Auckland Region. There are two main global air quality issues of relevance to the Auckland Region:

- **Greenhouse gas** emissions and their contribution to climate change and its effects; and

Destruction of the **ozone layer** by **ozone depleting substances**.

4.1.11.1 Greenhouse Gases

Greenhouse gases have been found to contribute to climate change as noted by the Intergovernmental Panel on Climate Change (IPCC). Although anthropogenic effects on climate have been difficult to distinguish from natural background climate variability and change, in 2001 the IPCC concluded that 'most of the warming observed over the last 50 years is attributable to human activities' and 'human influences will continue to change atmospheric composition throughout the 21st century'.

The Kyoto Protocol will commit New Zealand to returning our emissions of **greenhouse gases** back to 1990 levels, on average, or to take responsibility for mitigation of emissions in excess of 1990 levels, over 2008 – 2012 and to show 'demonstrable progress' on meeting these levels by 2005, including ratification of the Kyoto Protocol. Central government is a party to the Kyoto Protocol and therefore has primary responsibility for controlling greenhouse gas emissions within New Zealand.

New Zealand is a minor contributor of global greenhouse gas emissions, but has a unique greenhouse gas emission profile with a very high ratio of non-CO₂ greenhouse gas emissions to CO₂. However, in the last decade our CO₂ emissions from the energy and industrial sectors increased at a greater rate than non-CO₂ emissions. Over the next decade CO₂ is likely to become the major greenhouse gas in New Zealand. The burning of **fossil fuels** produces most of Auckland Region's CO₂ emissions. Transport (motor vehicles) is the main sector responsible for these emissions followed by industry and electricity generation.

4.1.11.2 Ozone Depleting Substances

Life on earth depends on the protective properties of the stratospheric **ozone layer**. **Ozone depleting substances** adversely affect the stratospheric **ozone layer** by reducing the overall thickness of the layer and causing holes to occur in it. Depletion of the **ozone layer** increases the levels of ultraviolet radiation (UV-B) reaching the earth. UV-B can cause eye, skin and DNA damage to humans and other animals and can retard plants and algal growth. Central government is a party to the international agreement known as the Montreal Protocol on Substances that Deplete the Ozone Layer. Central government therefore has primary responsibility for controlling the use of **ozone depleting substances**.

The Ozone Layer Protection Act 1996 and associated regulations is New Zealand's principal tool for implementing its obligations under the Montreal Protocol. This Act (and its predecessor) has phased out most **ozone depleting substances**. Provided suitable replacements can be found which ensure adequate quarantine and pre-shipment treatment of imported and exported goods, methyl bromide will be phased out by 2005 and hydrochlorofluorocarbons (which generally replaced the use of chlorofluorocarbons) will be phased out by 2015.

4.2 Issues

4.2.1 Poor air quality can seriously affect human health, **amenity** and the environment. Air pollution in some areas of the Auckland Region is already exceeding acceptable levels for health and **amenity**. At the current rate of growth it is likely that air pollution levels will worsen and the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets will not be achieved unless there are very significant reductions in emissions from **mobile sources**, in particular motor vehicles, and **domestic fires**.

4.2.2 Air quality in the Auckland Region is primarily affected by the cumulative impact of discharges into air from a range of individual sources, in particular emissions from motor vehicles and **domestic fires**. These discharges cause adverse effects on human health, **amenity** and the environment, in particular reduced visibility, photochemical smog, brown hazes and secondary aerosols. With continuing population growth in

the region the use of motor vehicles and **domestic fires** is increasing and cumulative impacts from these sources is likely to worsen.

- 4.2.3** Individual activities that discharge contaminants into air in the Auckland Region, such as **outdoor burning**, the application of **agrichemicals**, **intensive livestock farming** and industrial **processes**, if not adequately managed, may cause localised adverse effects on human health, **amenity** and the environment.
- 4.2.4** Adverse effects on air quality can be exacerbated by land use, such as the inappropriate location of activities that are discharging contaminants into air or the inappropriate location of parties sensitive to activities that discharge contaminants into air (**reverse sensitivity**). Population growth within the Auckland Region is intensifying pressure on competing and incompatible land uses.
- 4.2.5** **Mobile sources**, in particular the private motor vehicle, are the Auckland Region's largest contributor to regional air pollution. Ambient levels of particulate, carbon monoxide and nitrogen dioxide due to motor vehicles are already unacceptable. The current rate of growth in vehicle travel and congestion, the age of the vehicle fleet, the lack of requirements to continue to use or maintain air emission reduction equipment on motor vehicles, poor quality diesel fuel, and low passenger transport use mean that the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets are unlikely to be met. Discharges of contaminants from motor vehicles also have adverse effects on stormwater quality.
- 4.2.6** **Domestic fires** are the Auckland Region's second largest contributor to regional air pollution causing adverse effects such as brown hazes and secondary aerosols. **Domestic fires**, particularly in urban residential areas, also cause localised adverse effects such as odour and smoke.
- 4.2.7** **Outdoor burning** in the **urban areas** of the Auckland Region causes significant localised nuisance such as odour or smoke. Furthermore, the **outdoor burning** of some types of **waste** anywhere in the region can discharge large quantities of **toxic substances** into the air. **Outdoor burning** in certain circumstances by particular organisations such as emergency service providers is however necessary to provide for the safety and wellbeing of a community. Other organisations such as Ministry of Agriculture and Forestry, and those who administer the Health Act (1956) may also need to have material destroyed by **outdoor burning**.
- 4.2.8** Activities that discharge contaminants into air such as industrial **processes** and **waste** management activities can discharge potentially **hazardous air pollutants** and reduce **amenity**, in particular through odour, dust and visible emissions. Activities such as chemical reactions which may lead to explosive risk or discharge of hazardous pollutants may place people or the environment at considerable risk, while the probability of this occurring is generally low.
- 4.2.9** The discharge of contaminants into air in the Auckland Region impact on national and global air quality. Similarly, global air quality impacts on the Auckland Region. The two major global issues of significance to the Auckland Region are climate change, through the discharge of **greenhouse gases**, and the destruction of the **ozone layer** through the discharge of **ozone depleting substances**.

4.3 Objectives

- 4.3.1** To maintain air quality in those parts of the Auckland Region that have excellent or good air quality and enhance air quality in those parts of the Region where it is poor or unacceptable.

(This Objective relates to Issues 4.2.1, 4.2.2, 4.2.3 and 4.2.5 to 4.2.8)

- 4.3.2** To avoid, remedy or mitigate significant adverse effects from the discharge of contaminants into air on human health, **amenity** and the environment. In particular:
- To achieve the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets (given in Tables 4.1 and 4.2);
 - To maintain or enhance existing **amenity** within the Urban Air Quality Management Areas; and
 - To maintain existing levels of **amenity** within Industrial and Rural Air Quality Management Areas and the Coastal Marine Air Quality Management Area.
- (This Objective relates to Issues 4.2.1 to 4.2.8)*
- 4.3.3** To avoid, remedy or mitigate the cumulative and synergistic impacts of discharges into air from individual sources, in particular from **mobile sources** and **domestic fires** in **urban areas**.
- (This Objective relates to Issues 4.2.1, 4.2.2, 4.2.5, 4.2.6 and 4.2.8)*
- 4.3.4** To avoid or minimise competing and incompatible land uses that aggravate any adverse effects from discharges of contaminants into air.
- (This Objective relates to Issues 4.2.1 and 4.2.3 to 4.2.8)*
- 4.3.5** To avoid **reverse sensitivity** conflict from the discharge of contaminants into air where sensitive activities that have differing air quality expectations are located in close proximity to activities that discharge contaminants into air.
- (This Objective relates to Issues 4.2.1 and 4.2.3 to 4.2.8)*
- 4.3.6** To minimise the discharge of contaminants into air from **mobile sources** while enabling sustainable development and protecting the health and social well being of the people of the Auckland Region.
- (This Objective relates to Issues 4.2.1, 4.2.2 and 4.2.5)*
- 4.3.7** To minimise the discharge of contaminants into air from **domestic fires** in **urban areas** while protecting the health and social well being of the people of the Auckland Region.
- (This Objective relates to Issues 4.2.1, 4.2.2, 4.2.3 and 4.2.6)*
- 4.3.8** To avoid adverse effects of odour, smoke and **hazardous air pollutants** from **outdoor burning**.
- 4.3.9** To minimise the adverse effects from **outdoor burning** of vegetation and dead on-farm animal stock in rural areas and controlled burning by emergency service providers providing for community safety and wellbeing.
- (This Objective relates to Issues 4.2.1, 4.2.3, 4.2.4 and 4.2.7)*
- 4.3.10** To avoid significant adverse effects on human health and the environment arising from the discharge of contaminants into air from individual sources including industrial **processes**, **waste** management activities and **intensive livestock farming**.
- (This Objective relates to Issues 4.2.1, 4.2.3, 4.2.4 and 4.2.8)*
- 4.3.11** To encourage the reduction of the discharge into air of **greenhouse gases** and **ozone depleting substances** in accordance with central government legislation or policy while enabling sustainable development and protecting the health and social well being of the people of the Auckland Region.
- (This Objective relates to Issue 4.2.9).*

4.4 Policies

General

4.4.1 To have regard to the Objectives and Policies of Chapters 2.1, 2.2 and 2.3 in assessing any resource consent to discharge contaminants into air.

(This Policy relates to Objectives 4.3.1 to 4.3.11)

4.4.2 The relevant provisions of the Auckland Regional Plan: Coastal shall be considered in the assessment of any proposal to discharge contaminants into air within the Coastal Marine Air Quality Management Area.

(This Policy relates to Objectives 4.3.1 to 4.3.11. See also the following Objectives of the Regional Plan: Coastal 3.3.1, 3.3.2, 4.3.1, 4.3.2, 5.3.1, 5.3.2, 5.3.3, 6.3.1, 6.3.2, 8.3.1, 9.3.1, 9.3.2, 10.3.1, 10.3.2 and 10.3.3)

4.4.3 Significant adverse effects from the discharge of contaminants into air from any source shall be avoided; where this is not practicable for the cumulative effects from small sources, the effects of such discharges shall be minimised.

Explanation:

*Although many adverse effects can be avoided, for some activities for example motor vehicles and **domestic fires**, it is only practicable to minimise the discharge.*

(This Policy relates to Objectives 4.3.1, 4.3.2, 4.3.3, 4.3.6 and 4.3.7)

4.4.4 The discharge of contaminants into air that significantly compromises the Auckland Region's ability to meet the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets shall be considered inappropriate.

Explanation:

In assessing individual activities that discharge contaminants into air consideration will be given to their impact on and relevant contribution to the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets.

(This Policy relates to Objectives 4.3.1, 4.3.2, 4.3.3, 4.3.6 and 4.3.7)

4.4.5 The discharge of contaminants into air shall be considered inappropriate where:

- (a) It causes, or is likely to cause, noxious, dangerous, offensive or objectionable odour, dust, particulate, smoke or ash, beyond the **boundary** of the **premises** on which the discharge is occurring; or
- (b) It causes, or is likely to cause, noxious, dangerous, offensive or objectionable visible emissions; or
- (c) It is a **hazardous air pollutant** and causes, or is likely to cause, adverse effects on human health or the environment, beyond the **boundary** of the **premises** on which the discharge is occurring; or
- (d) It causes, or is likely to cause, spray beyond the **boundary** of the **premises** on which the discharge is occurring (overspray) from the application of paint or powder coatings.

Explanation:

It is considered that to avoid significant adverse effects, activities should comply with this policy and this is the basis for permitting most activities on the proviso that they meet the conditions of Rule 4.5.1.

A discussion on the terms 'noxious', 'dangerous', 'offensive' and 'objectionable' appears below Rule 4.5.1.

(This Policy relates to Objectives 4.3.1, 4.3.2, 4.3.3, 4.3.6, 4.3.7, 4.3.8 and 4.3.11)

4.4.6 In assessing noxious, dangerous, offensive or objectionable adverse effects from odour, dust, particulate, smoke or ash and visible discharges, consideration will be given to the Frequency, Intensity, Duration, Offensiveness and Location (FIDOL) of the discharge.

Explanation:

FIDOL factors will be considered in combination, as no single FIDOL factor determines how noxious, dangerous, offensive or objectionable odour or dust is. 'Location' includes the receiving environment – part of this assessment includes the relevant provisions of the underlying District Plan zones. For example a low frequency, high intensity odour or dust event may be objectionable, as may be a high frequency, low intensity odour or dust event. If the odour or dust 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 and/or provide further information. Where circumstances warrant, enforcement action may be taken in the form of an abatement notice, infringement notice, enforcement order, application of prosecution pursuant to the Resource Management Act 1991.

(This Policy relates to Objectives 4.3.4, 4.3.5, 4.3.7, 4.3.8 and 4.3.10)

4.4.7 To avoid or minimise adverse effects from competing and incompatible land uses, including **reverse sensitivity**, activities shall:

- (a) Locate within the Air Quality Management Area suitable to the nature of the activity; and/or
- (b) Manage the effects of their discharges of contaminants into air in a manner that is commensurate with the receiving environment (including the relevant provisions of the underlying District Plan zones); and/or
- (c) Maintain adequate separation distances.

Explanation:

Where sensitive land uses are not sufficiently separated from air discharges, amenity conflicts may occur and quality of life in the sensitive area may be compromised or may not meet expectations. For some activities, even with good pollution control technology and sound practice, there may still be unintended or accidental emissions that must be anticipated and allowed for. Provision of an adequate buffer distance allows for the segregation of noxious, dangerous, offensive or objectionable activities from other sensitive land uses. In some instances existing activities not located in Industrial Air Quality Management Areas that discharge contaminants into air may be able to avoid adverse effects on neighbouring sensitive land uses through the adoption of adequate control equipment. However a greater level of control would be expected than if the activity were located in an Industrial Air Quality Management Area; more stringent assessment criteria would be used in an assessment of effects because of the sensitivity of the receiving environment.

(This Policy relates to Objectives 4.3.2, 4.3.4, 4.3.5, 4.3.8 and 4.3.10)

4.4.8 Potential conflicts between incompatible land uses along the boundaries of Air Quality Management Areas shall be minimised. This should be undertaken through the use of zoning and development controls in District Plans and the provision of buffer distances or notional boundaries where necessary for activities requiring air discharge consents.

Explanation:

When assessing applications for discharges into air by activities located on the boundaries of Air Quality Management Areas, setbacks from boundaries of the establishment of a notional boundary may be required to ensure that conflicts between incompatible land uses are minimised and that the amenity of adjacent sensitive land uses are minimised and that the amenity of adjacent sensitive land uses

is maintained. When rural land is released for new urban development, the potential for reverse sensitivity must be taken into account. Development controls should be utilised so that the new development adjacent to existing uses in Rural or Industrial Air Quality Management Areas does not cause conflicts between the existing land use and the new development.

(This Policy relates to Objectives 4.3.2, 4.3.4, 4.3.5, 4.3.8 and 4.3.10)

- 4.4.9** The Best Practicable Option shall be employed in accordance with the definition in Section 2 of the RMA to avoid or minimise significant adverse effects from the discharge of contaminants into air.

Explanation:

Guidance on the Best Practicable Option for some discharges of contaminants into air is provided in various publications and relevant codes of practice.

(This Policy relates to Objectives 4.3.1, 4.3.3 and 4.3.6 to 4.3.11)

- 4.4.10** A precautionary approach shall be adopted where there is scientific uncertainty and a significant risk of serious effects or irreversible harm to the environment from any proposal to discharge contaminants into air.

Explanation:

A precautionary approach is likely to be used for any proposal to discharge contaminants into air where the relative contributions of sources of contaminants into air or the nature or extent of the adverse effects are uncertain.

(This Policy relates to Objectives 4.3.1 to 4.3.11)

- 4.4.11** The use of clean burning fuels and the efficient use of energy shall be encouraged.

(This Policy relates to Objectives 4.3.2, 4.3.3 and 4.3.7 to 4.3.11)

- 4.4.12** The discharge of contaminants into air from **outdoor burning**, land cultivation or the application of **fertiliser** or lime in an Urban Air Quality Management Area
- a) Where the land does not have an operative urban zoning under a district plan; and
 - b) Where production land activities are permitted activities under the relevant district plan

may be undertaken in accordance with the provisions relating to Rural Air Quality Management Areas until the zoning is changed to an operative urban zoning through district plan statutory processes.

Explanation:

In some Urban Air Quality Management Areas there are areas that have been identified for future urban growth or expansion in district plans but are currently used predominantly for production land activities. This policy enables these activities to continue until the underlying zoning is changed to an operative urban zoning through district plan statutory processes under the First Schedule of the RMA.

- 4.4.13** The discharge of contaminants into air from burning of **wastes** that discharge **hazardous air pollutants** shall be avoided.

(This Policy relates to Objectives 4.3.2, 4.3.3 and 4.3.7 to 4.3.10)

- 4.4.14** In assessing the effects of discharges of contaminants into air, all activities that discharge contaminants into air undertaken on that **premises** shall be considered.

Explanation:

*This enables assessment of all discharges of contaminants into air from a **premise** to ensure that cumulative adverse effects are considered.*

(This Policy relates to Objectives 4.3.3, 4.3.8 and 4.3.10)

4.4.15 In assessing the effects of discharges of contaminants into air, particular regard shall be had to:

- (a) Adverse effects on the environment, including **amenity**, human health and property;
- (b) The methods to avoid or minimise adverse effects on the environment;
- (c) The location of the activity and the proximity of other activities sensitive to the discharges;
- (d) Any cumulative adverse effects on the environment; and
- (e) Adverse effects on aircraft stability and/or safety from large-scale combustion sources assessed as a Discretionary Activity under Rule 4.5.32.

Explanation:

Regard shall also be had to any relevant technical publications, industry codes of practice, national guidelines or regulations.

(This Policy relates to Objectives 4.3.1 to 4.3.10)

Mobile Sources

Explanation:

The policies that follow are intended to provide guidance in assessing the effects from transport projects such as transport networks, new roads and alternatives to private motor vehicles on air quality. The primary methods for implementing these policies will be through land use planning procedures and transport strategies. Alternatives to the private motor vehicle can significantly reduce discharges of contaminants into air.

4.4.16 Any land use proposals with transportation effects, and any new transport projects or proposals for redeveloping transport infrastructure which have the potential to adversely affect air quality, should be assessed at a level considered appropriate for the size and scale of the project or proposal, and shall consider the following:

- (a) Effects on human health;
- (b) Effects on regional and local air quality; and
- (c) Any alternatives or methods to mitigate effects on air quality or minimise the discharge of contaminants into air.

(This Policy relates to Objectives 4.3.1 to 4.3.6 and 4.3.10)

4.4.17 In the management of the road network, **road controlling authorities** shall consider adverse effects on air quality.

(This Policy relates to Objectives 4.3.1 to 4.3.6 and 4.3.10)

4.4.18 Measures to reduce emissions of contaminants into air from individual motor vehicles shall be encouraged.

(This Policy relates to Objectives 4.3.1 to 4.3.6, 4.3.10 and 4.3.11)

4.4.19 The development of passenger transport, ridesharing, cycling, walking, tele-working and other measures to reduce the need to use motor vehicles to move people and goods around the Auckland Region shall be encouraged and supported.

(This Policy relates to Objectives 4.3.1 to 4.3.4, 4.3.6, 4.3.10 and 4.3.11)

Domestic Fires

Explanation:

AS/NZS 4013:1999 (Domestic Solid Fuel Burning Appliances – Method for determination of flue gas emission) includes a maximum allowable appliance particulate emission factor of 4.0 g/kg of fuel burned for appliances without catalytic

combustors and 2.25 g/kg for appliances with catalytic combustors and effectively defines Best Practicable Option for domestic fire manufacture. Correctly installing and operating a domestic fire significantly reduces any discharge of contaminants into air.

- 4.4.20** Any discharge of contaminants into air from new **solid fuelled domestic fires** in Urban, Coastal Marine and Industrial Air Quality Management Areas shall discharge at a particulate emission rate of no more than 4.0 g/kg of fuel burned (for appliances without catalytic combustors) and 2.25 g/kg (for appliances with catalytic combustors) determined using the New Zealand Standard AS/NZS 4013:1999 (Domestic Solid Fuel Burning Appliances – Method for determination of flue gas emission) or a functional equivalent test method for batch-fed appliances on the list of approved methods held by the ARC.

(This Policy relates to Objectives 4.3.1 to 4.3.4, 4.3.7 and 4.3.10)

- 4.4.21** The correct installation and operation of efficient and effective **domestic fires** shall be encouraged.

(This Policy relates to Objectives 4.3.1 to 4.3.4, 4.3.7, 4.3.10 and 4.3.11)

Outdoor Burning

Explanation:

Outdoor burning can cause significant nuisance in populated areas but may be required where there are no practicable alternatives.

- 4.4.22** The disposal of materials by **outdoor burning** or in a single chamber or **backyard incinerator** is inappropriate in Urban, Industrial and Coastal Marine Air Quality Management Areas.

(This Policy relates to Objectives 4.3.1 to 4.3.5, 4.3.8 and 4.3.10)

- 4.4.23** The disposal of materials (except vegetation and dead on-farm animal stock) by **outdoor burning** or in a single chamber or **backyard incinerator** is inappropriate in Rural Air Quality Management Areas and in the Waiheke Outdoor Burning Area.

(This Policy relates to Objectives 4.3.1 to 4.3.5, 4.3.8 and 4.3.10)

- 4.4.24** The discharge of contaminants into air from outdoor burning shall generally be considered appropriate where the adverse effects are minimised and where:
- The Ministry of Agriculture and Forestry, and designated authorities under the Health Act (1956) requires that the material be burnt; or
 - The fire is for the purpose of **Emergency Service Training and/or Investigation**; or
 - There are no practicable alternatives to burning; or
 - The fire is for the purpose of a controlled public display for a celebration.

(This Policy relates to Objectives 4.3.1 to 4.3.5, 4.3.8 and 4.3.10)

Other Activities That Discharge Contaminants Into Air

- 4.4.25** Significant adverse effects, in particular effects on human health, and/or reduced **amenity**, from the discharge into air of odour, dust, particulate, smoke, ash, **hazardous air pollutants**, overspray or visible emissions in an Urban Air Quality Management Area shall be considered inappropriate.

(This Policy relates to Objectives 4.3.1 to 4.3.10)

- 4.4.26** The discharge of contaminants into air from **outdoor burning**, land cultivation or the application of **fertiliser** or lime in an Urban Air Quality Management Area:
- Where the land does not have an operative urban zoning under a district plan; and

- (b) Where production land activities are permitted activities under the relevant district plan

may be undertaken in accordance with the provisions relating to Rural Air Quality Management Areas until the zoning is changed to an operative urban zoning through district plan statutory processes.

Explanation:

In some Urban Air Quality Management Areas there are areas that have been identified for future urban growth or expansion in district plans but are currently used predominantly for production land activities. This policy enables these activities to continue until the underlying zoning is changed to an operative urban zoning through district plan statutory processes under the First Schedule of the RMA.

- 4.4.27** In assessing the effects of discharges into air of odour, dust, particulate, smoke, ash, **hazardous air pollutants**, overspray or visible emissions in an Industrial Air Quality Management Area recognition shall be given to the nature of activities usually associated with industrial **processes** and the intrinsic character of industrial areas, and that a lower level of **amenity** can be expected than that expected in Urban Air Quality Management Areas.

(This Policy relates to Objectives 4.3.1, 4.3.2, 4.3.4, 4.3.5, 4.3.8 and 4.3.10)

- 4.4.28** In assessing the effects of discharges into air of odour, dust, particulate, smoke, ash, hazardous air pollutants, overspray or visible emissions in a Rural Air Quality Management Area recognition shall be given to the nature of activities associated with the primary production sector and the rural character of rural areas.

(This Policy relates to Objectives 4.3.1 to 4.3.10)

- 4.4.29** The discharge of contaminants into air from waste management processes in the Auckland Region shall be minimised by:

- (a) Minimising the quantity of **waste** generated; and
(b) Reusing and recycling **waste** materials.

(This Policy relates to Objectives 4.3.2, 4.3.4, 4.3.5, 4.3.10 and 4.3.11)

- 4.4.30** The discharge of contaminants into air from a waste management process shall generally be considered appropriate where:

- (a) The **process** is located outside an Urban Air Quality Management Area; and
(b) The **process** encourages the reduction, reuse or recycling of **waste** materials that may discharge contaminants into air; and
(c) The **composting** of **waste** is fully enclosed
(d) Or, notwithstanding (a) to (c) above, it is within an existing notional odour boundary determined through designation or an instrument registered against a land title.

Explanation:

*While the production of **waste** is discouraged, it does occur and needs to be managed appropriately. If **waste management processes** are not managed in accordance with best practice, they can cause significant adverse effects on air quality, particularly odour. It is recognised that in suitable locations and with adequate environmental controls **recycling stations** and **refuse transfer stations** may be appropriate in Urban Air Quality Management Areas.*

(This Policy relates to Objectives 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.10 and 4.3.11)

Global Air Quality

Explanation:

Global air quality is impacted on by discharges from all over New Zealand and therefore to enable consistency is more appropriately addressed at a national level.

- 4.4.31** Central government legislation and policy to manage emissions of **greenhouse gases** and the use of **ozone depleting substances** that can be implemented effectively at least cost to the general public and industry in the Auckland Region will be supported and promoted.

(This Policy relates to Objectives 4.3.2, 4.3.3, 4.3.6, 4.3.7, 4.3.10 and 4.3.11)

4.5 Rules

Notes:

1. The rules in this chapter of the Plan do not apply to electromagnetic radiation (EMR) or the generation of electromagnetic fields (ELF).
2. If a **premises** has on site more than one controlled, restricted discretionary, discretionary or non-complying activity specified in the Rules contained in Chapter 4 – Air Quality of this plan, a single application may be made for all specified activities undertaken on that **premises**.
3. Permitted activities subject to the rules in this section will also be subject to Rule 4.5.1 with the exception of Rule 4.5.3, and restricted discretionary activities subject to the rules in this section will also be subject to the matters the ARC has restricted its discretion over.

General Permitted Activity Rule

- 4.5.1** Unless provided for otherwise in this plan, activities that discharge contaminants into air are Permitted Activities, subject to the following conditions:

- (a) That beyond the **boundary** of the **premises** where the activity is being undertaken there shall be no noxious, dangerous, offensive or objectionable odour, dust, particulate, smoke or ash; and
- (b) That there shall be no noxious, dangerous, offensive or objectionable visible emissions; and
- (c) That beyond the **boundary** of the **premises** where the activity is being undertaken there shall be no discharge into air of **hazardous air pollutants** that does, or is likely to, cause adverse effects on human health, **ecosystems** or property; and
- (d) That beyond the **boundary** of the **premises** where the discharge into air of **agricultural chemicals** or paint or powder coatings is being undertaken there shall be no drift or overspray from the application.

Explanation:

NOXIOUS, DANGEROUS, OFFENSIVE AND OBJECTIONABLE EFFECTS

Policies 4.4.5 and 4.4.6 and Rule 4.5.1 use the terms “noxious”, “dangerous”, “offensive”, and “objectionable”. These terms are also included in the Section 17 of the Resource Management Act 1991. They are not defined in the Definitions to this Plan because of the need to take account of case law precedent as it develops, i.e. the Plan cannot override interpretations decided by the judiciary. However, the following notes are intended to provide some guidance for interpreting these terms:

- a. **NOXIOUS, DANGEROUS** – The Concise Oxford Dictionary defines “noxious” as “harmful, unwholesome”. At the time of writing this Plan, the term “noxious”

did not appear to have been defined or considered in case law pertaining to the Resource Management Act 1991. Noxious effects may include significant adverse effects on the environment (e.g. on plant and animal life) even though the effects may not be dangerous to humans.

"Dangerous" is defined as "involving or causing exposure to harm". Dangerous discharges include those that cause, or are likely to cause adverse physical health effects, such as discharges containing **toxic concentrations of chemicals**.

- b. **OFFENSIVE, OBJECTIONABLE** – The Concise Oxford Dictionary defines "Offensive" as "... giving or meant to give offence ... disgusting, foul-smelling, nauseous, repulsive ...". "Objectionable" is defined as "open to objection, unpleasant, offensive". Case law has established that what may be offensive or objectionable under the Resource Management Act 1991 cannot be defined or prescribed except in the most general of terms. Each case will depend upon its own circumstances. Key considerations include:
- (i) Location of an activity and sensitivity of the receiving environment – What may be considered offensive or objectionable in an Urban Air Quality Management Area area, may not necessarily be considered offensive or objectionable in a Rural Air Quality Management Area;
 - (ii) Reasonableness – Whether or not an activity is 'offensive' or 'objectionable' should be determined by a 'reasonable ordinary person who is representative of the community at large and is neither hypersensitive nor insensitive', deciding whether the activity is disgusting, nauseous, repulsive or otherwise objectionable.
 - (iii) Existing uses – It is important to consider what lawfully established activities exist in an area, i.e. if a new activity requires a permit, the effect of existing discharges of contaminants into air should be considered.

Each investigation of a complaint concerning noxious, dangerous, offensive or objectionable discharges will depend upon the specific circumstances.

In responding to a complaint relating to a breach of condition concerning odour or dust (for a resource consent or permitted activity rule), what may be "offensive or objectionable" will generally be determined by a Council officer, or officers who have experience in odour and dust assessment. In such assessments, officers will generally follow relevant case law principles and take into account the FIDOL factors (Frequency, Intensity, Duration, Offensiveness, and Location). This approach aims to promote consistency in the assessment of odour and dust.

[A470/04/27, A470/04/28, A470/04/29 Haka International]

General Discretionary Activity Rule

4.5.2

The discharge of contaminants into air that does not comply with Rule 4.5.1 and is not covered by any other rule in this section of the plan is a Discretionary Activity.

Explanation:

This rule is intended to apply to activities that have not been provided for throughout this section of the plan. Compliance with Rule 4.5.1 will generally be enforced, rather than requiring resource users to go through the process of obtaining a consent for activities that are not likely to have more than minor adverse effects on the environment. However some activities may not be able to comply and will therefore require a discretionary resource consent.

Mobile Sources

Permitted Activities

- 4.5.3** The discharge of contaminants into air created by motor vehicle, aircraft, train, vessel and lawnmower engines including those located on industrial or trade **premises** is a Permitted Activity.

Explanation:

Mobile sources such as mobile generators or crushing plants and **outdoor burning on mobile sources** such as ships are not included in Rule 4.5.3 because of their controllable adverse effects and the need to be treated in the same way as similar stationary sources.

Motor vehicle engine emissions are regulated by Central Government. Complimentary regional measures may be considered through the development of the Regional Air Quality Management Strategy. However any regional rules would be promulgated by means of a Variation or Plan Change thus enabling consultation and due process of the Resource Management Act.

Domestic Fires

Note 1: Clauses 22, 23 and 24 of the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins and Other Toxics) Regulations 2004 (the NES) also have requirements that must be complied with for woodburners on properties of less than 2 hectares. These requirements are in addition to those given in this Plan and are relevant to Rules 4.5.5, 4.5.7 and 4.5.8.

In summary the NES states that woodburners (as defined in the NES) installed after 1 September 2005 on sites of less than 2 hectares must comply with an particulate emission limit of 1.5g/kg of fuel burned and a thermal efficiency of no less than 65%.

The complete wording of the NES can be found at www.mfe.govt.nz

Permitted Activities

- 4.5.4** The discharge of contaminants into air from **domestic fires** fuelled by natural gas or liquid **fossil fuels** is a Permitted Activity, subject to conditions (a) to (c) of Rule 4.5.1.
- 4.5.5** The discharge of contaminants into air from **solid fuelled domestic fires** installed, replaced (for existing **domestic fires**) or retrofitted (into existing buildings) in Rural Air Quality Management Areas given in Map Series 1 and 1A is a Permitted Activity, subject to conditions (a) to (c) of Rule 4.5.1.
- 4.5.6** The discharge of contaminants into air from **solid fuelled domestic fires** installed before 1 September 2005 is a Permitted Activity, subject to conditions (a) to (c) of Rule 4.5.1.
- 4.5.7** The discharge of contaminants into air from **solid fuelled domestic fires** installed, replaced (for existing **domestic fires**) or retrofitted (into existing buildings) in Urban, Coastal Marine and Industrial Air Quality Management Areas on or after 1 September 2005 is a Permitted Activity, subject to the following conditions:
- (a) The **domestic fire** shall be manufactured to comply with a particulate emission rate of no more than 4.0 g/kg of fuel burned (for appliances without catalytic combustors) and 2.25 g/kg of fuel burned (for appliances with catalytic combustors) calculated by averaging the particulate emissions for high, medium, and low burn rates;

- (b) The discharge into air shall be through a flue system installed so that:
- i The minimum height of the flue system within 3 m from the highest point of the roof shall be 600 mm above that point; and
 - ii The minimum height of the flue system further than 3 m from the highest point of the roof shall be 1000 mm above roof penetration; and
 - iii No part of any building shall lie in or above a circular area described by a horizontal radius of 3 m about the flue system exit; and
 - iv There shall be no penetration of flue gases through nearby windows or other openings, fresh air inlets, mechanical ventilation inlets or exhausts, or the like; and
- (c) Conditions (a) to (c) of Rule 4.5.1.

Explanation:

Determination of the particulate emission rate shall be by the New Zealand Standard AS/NZS 4013:1999 (Domestic solid fuel burning appliances – Method for determination of flue gas emissions) or a functional equivalent test method for batch fed appliances on the list of approved methods held by the ARC.

Guidance on correct stack installation specifications including diagrammatic illustration and methods for minimising penetration of flue gases through nearby window or other building inlets are provided in Section 4.9.1 of the New Zealand Standard AS/NZS 2918:2001 (Domestic solid fuel burning appliances – Installations). Figure 4.9 (Minimum Height of Flue System Exit) from AS/NZS 2918:2001 (Domestic solid fuel burning appliances – Installations) has been reproduced in Schedule 6 with permission from Standards New Zealand to provide further guidance.

*In general, to minimise the discharge of contaminants into air from **domestic fires** and to comply with Rule 4.5.1 a fire should:*

- *Use wood that is **dry and well seasoned** and not use **waste/fuels** that are prohibited (see Rules 4.5.9 and Rules 4.5.10) such as wood which is painted, or treated; and*
- *Have sufficient air supply to allow the fire to burn brightly (Burn Bright, Burn Right).*

***Domestic fires** that will comply with Rule 4.5.7 include solid fuel burning appliances, and commercially designed open fireplaces with double burning capacity. **Domestic fires** that will not comply with Rule 4.5.7 currently include most potbellies, coal ranges and brick open fireplaces.*

Prohibited Activities**4.5.8**

The discharge of contaminants into air from **domestic fires** that do not comply with Rules 4.5.4, 4.5.5, 4.5.6 or 4.5.7 is a Prohibited Activity.

4.5.9

The discharge of contaminants into air from the burning of **waste** in **domestic fires** is a Prohibited Activity, including but not limited to:

- (a) **Refuse**;
- (b) Wood that is painted, tanalised (treated with copper, chrome and arsenic) or treated with preservatives or impregnated with chemicals (including chipboard);
- (c) Organic materials including **green waste(s)** and vegetation but excluding wood, paper, and **fossil fuels**; and
- (d) Plastic, rubber, paint, used (**waste**) oil, motor oil, and solvents.

- 4.5.10** The discharge of contaminants into air from a domestic fire burning fuel with a sulphur content exceeding 0.5 per cent (by weight) or burning wood with a moisture content exceeding 25% (by dry weight) is a Prohibited Activity.

Explanation:

Most commercially available liquid fuels contain significantly less than 0.5 per cent sulphur, and most of the coalfields within the North Island produce low sulphur coal, i.e. less than 0.5 per cent sulphur.

Outdoor Burning

Explanation:

This section of the plan does not cover accidental fires (such as house fires) or the use of explosives, for example fireworks, and explosives for the blasting of rock.

Rules 4.5.13, 4.5.18 and 4.5.20 include the burning of buildings and other materials for investigating the effects of fires and training firefighters in responding to fires, and generally applies to such parties as the New Zealand Fire Service, New Zealand Navy and airport fire response services.

Permitted Activities

- 4.5.11** The discharge of contaminants into air from the outdoor combustion of natural gas, liquid **fossil fuels**, solid fuels or untreated wood where the fuel has a sulphur content of less than 0.5 per cent (by weight), for the purpose of heating or cooking is a Permitted Activity, subject to conditions (a) to (c) of Rule 4.5.1.

Explanation:

*This rule permits the operation of fires for cooking and heating, including **barbeques**, **umus**, **hangis**, **domestic smokehouses** and other **ethnic cooking fires**, and **braziers** and **outdoor heaters**, but excludes large fires, for example **bonfires**.*

- 4.5.12** Within the Rural Air Quality Management Area, Urban Air Quality Management Areas which do not have an operative urban zoning under the relevant district plan, and the Waiheke Outdoor Burning Area given in Map Series 1 and 1A, the discharge of contaminants into air from the **outdoor burning** or burning within a backyard or **single chamber incinerator**, of untreated wood, paper, vegetation (including **green waste(s)**), and no more than 1.5 tonnes per day of dead on-farm animal stock is a Permitted Activity, subject to conditions (a) to (c) of Rule 4.5.1.

Explanation:

*The Waiheke Outdoor Burning Area has been included within Rule 4.5.12 as the Auckland City (Hauraki and Gulf Islands Section) District Plan 1996 land use zoning is intended to preserve the predominantly **rural character** of the area and is not intended for urban development.*

*In general to minimise the discharge of contaminants into air from **outdoor burning** and burning within a backyard or **single chamber incinerator**, to comply with Rule 4.5.1 a fire should generally:*

- *Use wood or vegetation which is **dry and well seasoned**;*
- *Be located as far as practicable from adjacent **premises**;*
- *Be supervised;*
- *Be located at least 3 metres from any combustible material including buildings, fences, hedges and trees;*
- *Be undertaken in accordance with any instructions provided by the manufacturer if vegetation has been treated or sprayed by an **agrichemical**; and*
- *Be undertaken in suitable weather conditions, for example, in accordance with the New Zealand Fire Service's Rural Fire Weather Index System.*

4.5.13 The discharge of contaminants into air from the burning of any material for the purpose of **Emergency Service Training and Investigation** activities is a Permitted Activity, subject to Rule 4.5.1 (a), (b) and (d) and the following conditions:

- (a) All adjacent neighbours shall be notified at least 48 hours prior to the fire being lit; and
- (b) The ARC and the relevant **Territorial Authority/ies** shall be notified at least 7 days in advance of the following information:
 - i the location of the fire
 - ii the duration of the fire
 - iii contact details of the person/s overseeing the fire; and
- (c) The New Zealand Fire Service or the Auckland Airport Fire Service (in the case of fires at Auckland International Airport) shall be in attendance for the duration of the fire and the lighting, burning and subsequent extinguishing of the fire shall be undertaken under the supervision and direction of the New Zealand Fire Service or the Auckland Airport Fire Service; and
- (d) The fire is not in an Urban or Coastal Air Quality Management Area.

Restricted Discretionary Activities

4.5.14 The discharge of contaminants into air from the outdoor combustion of natural gas, liquid **fossil fuels**, solid fuels or untreated wood where the fuel has a sulphur content of less than 0.5 per cent (by weight), for the purpose of heating or cooking that does not comply with Rule 4.5.11 is a Restricted Discretionary Activity.

4.5.15 Within the Rural Air Quality Management Area, Urban Air Quality Management Areas which do not have an operative urban zoning under the relevant district plan, and the Waiheke Outdoor Burning Area given in Map Series 1 and 1A, the discharge of contaminants into air from the **outdoor burning** or burning within a backyard or **single chamber incinerator**, of untreated wood, paper, vegetation (including **green waste(s)**), and no more than 1.5 tonnes per day of dead on-farm animal stock that does not comply with Rule 4.5.12 is a Restricted Discretionary Activity.

4.5.16 Within the Rural Air Quality Management Area, Urban Air Quality Management Areas which do not have an operative urban zoning under the relevant district plan, and the Waiheke Outdoor Burning Area given in Map Series 1 and 1A, the discharge of contaminants into air from the **outdoor burning** or burning within a backyard or **single chamber incinerator**, of more than 1.5 tonnes per day of dead on-farm animal stock is a Restricted Discretionary Activity.

Explanation:

*While the **outdoor burning** of stock as a method of disposal is discouraged, it may be necessary in emergency situations.*

4.5.17 Outside the Rural Air Quality Management Areas given in Map Series 1 and 1A, the discharge of contaminants into air from **outdoor burning** or burning within a backyard or **single chamber incinerator**, for the purpose of:

- (a) Controlled public displays for celebrations (e.g. Guy Fawkes bonfires); and
- (b) Disposing of any material required to be burnt by Ministry of Agriculture and Forestry, and designated authorities under the Health Act (1956)

is a Restricted Discretionary Activity.

- 4.5.18** The discharge of contaminants into air from the burning of any material for the purpose of *Emergency Service Training and Investigation* activities which does not comply with Rule 4.5.13 is a Restricted Discretionary Activity.

Matters for Discretion

- 4.5.19** The ARC shall restrict the exercise of its discretion to the following matters in assessing applications under Rules 4.5.14, 4.5.15, 4.5.16, 4.5.17 and 4.5.18:
- The location of the fire;
 - The need for the fire and consideration of alternatives;
 - The quantity and type of material to be burnt and any effects arising from the fire;
 - The methods to control and minimise the discharge from the fire;
 - The length of time the fire will burn;
 - Monitoring; and
 - The duration and review of the consent.

Non notification

Applications for restricted discretionary activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Explanation:

Restricted Discretionary applications to discharge contaminants into air from **outdoor burning** (Fire Permits) are unlikely to be notified, unless they are for long-term burning activities, extremely large fires or occur in sensitive locations.

Fire permits are required under various legislation and where practicable the issuing of one combined permit will be encouraged.

Prohibited Activities

- 4.5.20** The discharge of contaminants into air from the burning of **waste** (excluding untreated wood, paper, vegetation (including **green waste(s)**) and dead on-farm animal stock in Rural Air Quality Management Area, Urban Air Quality Management Areas which do not have an operative urban zoning under the relevant district plan, and the Waiheke Outdoor Burning Area and excluding *Emergency Service Training and/or Investigation* provided for in Rules 4.5.13 and 4.5.18) by **outdoor burning**, or in a backyard or **single chamber incinerator**, including but not limited to:
- Municipal, commercial, institutional, domestic or industrial **wastes**;
 - Refuse**;
 - Wood that is painted, tanned (treated with copper, chrome and arsenic) or treated with preservatives or impregnated with chemicals (including chipboard);
 - Plastic (e.g. **agrichemical** containers and silage wrap), rubber (e.g. tyres), paint, used (**waste**) oil, motor oil, solvents and bituminous materials;
 - Sewage** sludge or screenings;
 - Coated or covered metal cable, motor vehicles or parts of motor vehicles or any other mixture or combination of metals and combustible substances;

- (g) Pathological, clinical or veterinary **wastes**;
 - (h) Solid, liquid or gaseous chemical **wastes**; and
 - (i) Construction or demolition **waste**
- is a Prohibited Activity.

4.5.21 The discharge of contaminants into air from the burning of any material by **outdoor burning**, or burning in a backyard or **single chamber incinerator** within the Urban, Industrial and Coastal Marine Air Quality Management Areas shown in Map Series 1 and 1A, excluding activities specified in Rules 4.5.11, 4.5.12, 4.5.17 and 4.5.18 is a Prohibited Activity.

4.5.22 The discharge of contaminants into air from the outdoor combustion of a fuel with a sulphur content equal to or greater than 0.5 per cent (by weight) is a Prohibited Activity.

4.5.23 The discharge of contaminants into air from the use of road seal burners is a Prohibited Activity.

Other Activities That Discharge Contaminants Into Air (Rules 4.5.24 – 4.5.122)

Explanation:

The rules in this section of the Plan relate to the following activities:

- *Combustion Activities – Rules 4.5.25 - 4.5.32*
- *Incineration and Cremation – Rules 4.5.33 - 4.5.36*
- *Drying and Kiln Processes – Rules 4.5.37 - 4.5.43*
- *Dust Generating Activities – Rules 4.5.44 - 4.5.70*
- *Waste Processes – Rules 4.5.71 - 4.5.89*
- *Food, Animal or Plant Matter Processes – Rules 4.5.90 - 4.5.93*
- *Chemical Processes – Rules 4.5.94 - 4.5.99*
- *Ventilation, Displacement or Dispensing of Motor Fuels – Rules 4.5.100 - 4.5.103*
- *Metallurgical Processes – Rules 4.5.104 - 4.5.114 and*
- *Production Land Activities and Intensive Livestock Farming – Rules 4.5.115 - 4.5.122.*

Restricted Discretionary Activities - Matters for Discretion

4.5.24 The ARC shall restrict the exercise of its discretion to the following matters in assessing applications under Rules 4.5.30, 4.5.31, 4.5.33, 4.5.37, 4.5.56, 4.5.57 to 4.5.61, 4.5.78 to 4.5.82, 4.5.90, 4.5.102, 4.5.103, 4.5.106 to 4.5.108, and 4.5.119:

- (a) The requirement to discharge and consideration of alternatives; and
- (b) The quantity, quality and type of discharge and any effects arising from that discharge; and
- (c) The methods to minimise the discharge and to avoid, remedy or mitigate any adverse effects of the discharge; and
- (d) The location of the discharge; and
- (e) Monitoring; and
- (f) The duration and review of the consent.

Explanation:

In assessing the methods to minimise the discharge and to avoid, remedy or mitigate any adverse effects of the discharge under Rule 4.5.24(c), the considerations will include the adequacy of control measures, if any, for the collection, containment, management and treatment of the discharge, as well as the type and adequacy of any control equipment and preparation of management plans.

Non notification

Applications for restricted discretionary activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Explanation:

Rule 4.5.24 applies to all restricted discretionary activities provided for in this chapter except for outdoor burning activities which are provided for by Rule 4.5.19.

Other Activities that Discharge Contaminants into Air – Combustion Activities

[New rules - A499/04/04 Waste Management (NZ) Ltd]

Explanation:

*Rules 4.5.25 to 4.5.32 shall not apply to the discharges associated with the combustion of fuel to heat domestic or residential **premises** as they are addressed in Rules 4.5.4 to 4.5.10.*

*Rules 4.5.25 to 4.5.32 shall not apply to the discharges associated with the combustion of fuel to provide emergency power generation to **premises** during mains power unavailability as this is a permitted activity covered by Rule 4.5.1.*

The Permitted Activity status levels represent large appliances in industry for the purpose of raising heat or energy for on-site use. Dispersion modelling has found that ground level concentrations are likely to be less than 10 % for NO_x from gas-fired appliances, and less than 10 % for SO₂ from diesel and coal fired appliances, of the ambient guidelines, provided that the Permitted Activity conditions are met.

Permitted Activities**Explanation:**

*Combustion of **landfill** gas is primarily for controlling **landfill** gas odours and for the purpose of this Plan is covered under Rules 4.5.78, 4.5.86, 4.5.87 and 4.5.89.*

Combustion activities permitted by Rules 4.5.26 to 4.5.29 must comply with Civil Aviation Rules for aircraft safety, in particular the limits set out in Part 77 (Objects and Activities Affecting Navigable Airspace) summarised below:

- (1) *Where the discharge occurs in close proximity to an aerodrome, the efflux must not penetrate the obstacle limitation surfaces protecting the aerodrome at a velocity in excess of 4.3 metres per second; or*
- (2) *Where the discharge is not in close proximity to an aerodrome, the efflux must not be discharged at a velocity that exceeds 4.3 metres per second higher than 60 metres above ground level.*

For further information regarding compliance with Civil Aviation Rules please contact the Civil Aviation Authority of New Zealand. Copies of the official rule and amendments as signed by the Minister of Transport may be obtained from the Civil Aviation Authority or may be downloaded from the official web site at: www.caa.govt.nz.

4.5.25 The discharge of contaminants into air from the combustion of natural gas or liquefied petroleum gas not exceeding a **total generating capacity** of 1 MW (megawatt) is a Permitted Activity, subject to conditions (a) to (c) of Rule 4.5.1.

4.5.26 The discharge of contaminants into air from the combustion of natural gas or liquefied petroleum gas exceeding a **total generating capacity** of 1MW (megawatt) and not exceeding a **total generating capacity** of 22 MW (megawatts) for the purpose of raising heat or energy is a Permitted Activity, subject to the following conditions:

- (a) Conditions (a) to (c) of Rule 4.5.1; and
- (b) The discharge of products of combustion shall be through a stack, the height of which shall be determined in accordance with the procedures set out in the "Guidelines for Estimating Chimney Heights for Small to Medium Size Fuel Burning Equipment" published by the Environment Protection Authority of New South Wales, February 1993; and
- (c) The stack shall be designed so that, under normal operating conditions which give rise to maximum emissions, the discharge velocity from the stack is greater than 15 metres per second; and
- (d) There shall be no visible emissions resulting from the combustion **process** other than heat haze and clean steam during normal operations; and
- (e) Rain excluders shall not impede the upward discharge of combustion gases.

4.5.27 The discharge of contaminants into air from the combustion of diesel, or light or heavy fuel oil, excluding **waste** oil, not exceeding a **total generating capacity** of 10 MW (megawatts), for the purpose of raising heat or energy is a Permitted Activity, subject to conditions (a) to (e) of Rule 4.5.26 and the discharge is minimised to the extent practicable.

4.5.28 The discharge of contaminants into air from the combustion of coal, not exceeding a **total generating capacity** of 5 MW (megawatts), for the purpose of raising heat or energy is a Permitted Activity, subject to the following conditions:

- (a) Conditions (a) to (e) of Rule 4.5.26; and
- (b) The sulphur content of the coal does not exceed 0.5 per cent (by weight); and
- (c) An adequate particulate control measure such as bag filter or electrostatic precipitator shall be used.

4.5.29 The discharge of contaminants into air from the combustion of wood not exceeding a **total generating capacity** of 5 MW (megawatts) for the purpose of raising heat or energy is a Permitted Activity, subject to the following conditions:

- (a) Conditions (a) to (e) of Rule 4.5.26; and
- (b) The wood is not painted, tanned (treated with copper, chrome and arsenic) or treated with preservatives or impregnated with chemicals (including chipboard); and
- (c) The wood has a moisture content of less than 25 per cent by weight (dry basis); and
- (d) An adequate particulate control measure such as bag filter or electrostatic precipitator shall be used.

Restricted Discretionary Activities

4.5.30 The discharge of contaminants into air from the combustion, excluding flaring, of any other gaseous, liquid or solid fuel not exceeding a **total generating capacity** of 5 MW (megawatts) for the purpose of raising heat or energy, that complies with conditions (a) to (e) of Rule 4.5.26 is a Restricted Discretionary Activity.

- 4.5.31** The discharge of contaminants into air through a bag filter or electrostatic precipitator system from the combustion of coal or wood exceeding a **total generating capacity** of 5 MW (megawatts) but not exceeding a **total generating capacity** of 20 MW for the purpose of raising heat or energy, that complies with the conditions of Rule either 4.5.28 or Rule 4.5.29 is a Restricted Discretionary Activity.

Note: Rule 4.5.24 lists the matters for discretion relating to Rules 4.5.30 and 4.5.31.

Discretionary Activity

- 4.5.32** The discharge of contaminants into air from the combustion, excluding flaring, of fuel for the purpose of raising heat or energy that does not comply with or is not covered by Rules 4.5.25 to 4.5.31 is a Discretionary Activity.

[A499/04/02 Waste Management (NZ) Ltd]

Explanation:

Combustion of landfill gas is primarily for controlling landfill gas odours and for the purpose of this Plan is covered under Rules 4.5.78, 4.5.86, 4.5.87 and 4.5.89.

[A499/04/02 Waste Management (NZ) Ltd]

For Rule 4.5.32 see also Policies 4.4.1 - 4.4.15 and 4.4.25 - 4.4.30

Other Activities That Discharge Contaminants Into Air – Incineration and Cremation

Restricted Discretionary Activity

- 4.5.33** The discharge of contaminants into air through an afterburner from the cremation of human or animal remains, excluding the burning of animal remains covered by Rules 4.5.12, 4.5.15 and 4.5.16 is a Restricted Discretionary Activity, subject to the following standards and terms:

- (a) The crematorium shall be designed so that, before discharge to atmosphere, all emissions from the crematorium chamber shall be contained and shall pass through an afterburner; and
- (b) The afterburner shall be capable of maintaining all gases passing through it at a minimum temperature of 850 degrees Celsius, in greater than 6% oxygen, for a design residence time of at least 2 seconds; and
- (c) The afterburner shall have a temperature probe installed to continuously monitor and record the temperature of the **waste** gases in the afterburner. The stack shall have an opacity meter installed to continuously monitor and record the opacity of the discharge. All **process** monitoring equipment shall be fitted with audible alarms; and
- (d) The consent applicant shall provide a manufacturer guarantee or certification by an independent chartered professional engineer that design of the afterburner system is adequate to meet the criteria specified in (a), (b), and (c) above.

Note: Rule 4.5.24 lists the matters for discretion relating to Rule 4.5.33.

Discretionary Activities

- 4.5.34** The discharge of contaminants into air from the cremation of human or animal remains that does not comply with Rule 4.5.33 is a Discretionary Activity.

- 4.5.35** The discharge of contaminants into air from any **process** that includes the destruction of municipal, commercial, institutional, domestic or industrial **wastes** by burning in an incinerator (excluding backyard and **single chamber incinerators** which are covered by Rules 4.5.11 to 4.5.23), including but not limited to:

- (a) **Refuse**;
- (b) Paper;
- (c) Vegetation (including **green waste(s)**);

- (d) Crates, pallets or other wood **wastes**;
- (e) Wood that is painted, tanned (treated with copper, chrome and arsenic) or treated with preservatives or impregnated with chemicals (including chipboard);
- (f) Plastic (e.g. **agricultural** containers), rubber (e.g. tyres), paint, used (**waste**) oil, motor oil, solvents and bituminous materials;
- (g) **Sewage** sludge or screenings;
- (h) Coated or covered metal cable, motor vehicles or parts of motor vehicles or any other mixture or combination of metals and combustible substances;
- (i) Pathological, clinical or veterinary **wastes**;
- (j) Solid, liquid or gaseous chemical **wastes**;
- (k) Construction or demolition **waste**; or
- (l) Chlorinated organic chemicals

is a Discretionary Activity.

- 4.5.36** The discharge of contaminants into air from the flaring of **gaseous products**, excluding **landfill** gas, and including, but not limited to, biogas and **waste** gaseous petrochemical products is a Discretionary Activity.

For Rules 4.5.34 – 4.5.36 see also Policies 4.4.1 – 4.4.15 and 4.4.25 – 4.4.30

Other Activities that Discharge Contaminants into Air – Drying and Kiln Processes

Restricted Discretionary Activity

- 4.5.37** The discharge of contaminants into air through an afterburner from the drying, curing or baking of any solvent-based coating onto any surface by the application of heat at a solvent application rate exceeding a total on-site capacity of 20 kilograms per hour is a Restricted Discretionary Activity.

Note: Rule 4.5.24 lists the matters for discretion relating to Rule 4.5.37

Discretionary Activities

- 4.5.38** The discharge of contaminants into air from any **process** that includes the drying, curing or baking of any solvent-based coating onto any surface by the application of heat at a solvent application rate exceeding a total on-site capacity of 20 kilograms per hour that is not covered by Rule 4.5.37 is a Discretionary Activity.
- 4.5.39** The discharge of contaminants into air from any **process** that includes the baking of ceramics, bricks or tiles with a total on-site capacity of more than 5 tonnes per day is a Discretionary Activity.
- 4.5.40** The discharge of contaminants into air from the drying, curing or baking of any substance (excluding food **processes** and those **processes** covered by Rules 4.5.37 and 4.5.38) that on heating at a rate exceeding a total on-site capacity of 500 kW (kilowatts) releases dust, odour or **hazardous air pollutants** is a Discretionary Activity.
- 4.5.41** The discharge of contaminants into air from any **process** that includes the manufacture of synthetic wood or paper board (including hardboard, plywood or fibre board), by drying, curing or pressing wood, paper or wood or paper products through the application of heat is a Discretionary Activity.

- 4.5.42** The discharge of contaminants into air from any **process** that includes the pulping of wood, paper or wood or paper products by mechanical or chemical **processes**, or the associated **processes** of bleaching or chemical or by-product recovery including recycled paper pulping is a Discretionary Activity.

For Rules 4.5.38 – 4.5.42 see also Policies 4.4.1 – 4.4.15 and 4.4.25 – 4.4.30

Prohibited Activity

- 4.5.43** The discharge of contaminants into air from any **process** that includes the pulping of wood or wood products by the Kraft Process is a Prohibited Activity.

Other Activities that Discharge Contaminants into Air – Dust Generating Activities

Permitted Activities

- 4.5.44** The discharge of contaminants into air from the storage, handling, redistribution, or repackaging of minerals, ores and/or aggregates is a Permitted Activity, subject to conditions (a) to (c) of Rule 4.5.1.
- 4.5.45** The discharge of contaminants into air from the storage of coal outdoors where the total on-site outdoor storage capacity is not more than 2 tonnes is a Permitted Activity, subject to conditions (a) to (c) of Rule 4.5.1.
- 4.5.46** The discharge of contaminants into air from **cleanfills** is a Permitted Activity, subject to conditions (a) to (c) of Rule 4.5.1.
- 4.5.47** The discharge of contaminants, namely dust, into air from land cultivation or the application of **fertiliser** or lime in Rural Air Quality Management Areas and Urban Air Quality Management Areas which do not have an operative urban zoning under the relevant district plan, not covered by any other rule in the Plan is a Permitted Activity, subject to conditions (a) and (c) of Rule 4.5.1.

Explanation:

*When best practice is undertaken, the discharge of contaminants from **fertiliser** application does not normally result in the discharge of hazardous air pollutants beyond the boundary at sufficient levels to cause, or likely to cause adverse effects on human health, ecosystems or property. Therefore it is anticipated that most applications of fertiliser can be carried out as a permitted activity.*

- 4.5.48** The discharge of contaminants, namely dust, into air from unsealed public roads is a Permitted Activity, subject to conditions (a) and (c) of Rule 4.5.1.

Explanation:

*To minimise the discharge of dust into air associated with motor vehicle movements on unsealed public roads, standard dust suppression measures such as the application of water and appropriate grading should be used by the relevant **road controlling authority**.*

- 4.5.49** The discharge of contaminants into air from **earthworks** or from the construction, maintenance or repair of roads (road works) is a Permitted Activity, subject to conditions (a) to (c) of Rule 4.5.1.

Explanation:

***Earthworks** and road works usually require consent from either ARC or TAs for landuse activities or discharges of contaminants onto or into land or water. It is not intended that consent be also required for discharges of contaminants into air.*

Compliance with this rule will generally be enforced rather than requiring resource users to go through the process of obtaining a consent for activities that are not likely to have more than minor adverse effects on the environment. However some activities may not be able to comply and will therefore require a restricted discretionary consent under Rule 4.5.56.

4.5.50 The discharge of contaminants into air from the temporary crushing of concrete, masonry products, minerals, ores and/or aggregates with a mobile crusher at a rate not exceeding a total on-site capacity of 60 tonnes per hour is a Permitted Activity subject to the following conditions:

- (a) Conditions (a) to (c) of Rule 4.5.1; and
- (b) The crusher plant shall be fitted with an effective watering system so that dust emissions are minimised; and
- (c) Temporary crushing plants located on development sites shall only crush material originating from and to be utilised at the development site.

4.5.51 The discharge of contaminants into air from the **open-cast extraction**, or quarrying, or mining, or crushing, or screening or **processing** of minerals, ores and/or aggregates (including coal and coal products) at a rate not exceeding 5 tonnes per hour from any one of these activities is a Permitted Activity, subject to conditions (a) to (c) of Rule 4.5.1.

Explanation:

To minimise the discharge of dust into air from dust generating activities, including earthworks or road works, in Rules 4.5.44 – 4.5.48, 4.5.49, 4.5.50 and 4.5.51 adequate dust suppression measures should be in place such as the following:

- *A Dust Management Plan detailing methods for minimising and monitoring dust emissions;*
- *Retain shelter belts;*
- *Erect temporary windbreaks;*
- *Keep piles, including stockpiles, adequately watered, covered or protected, to prevent windblown dust;*
- *Enclose any conveying equipment or have adequate dust minimisation;*
- *Cease dust generating operations, e.g. vehicle movements, in windy or dry conditions;*
- *Water exposed surfaces, including by water carts or sprinkler systems, in windy or dry conditions; and*
- *Undertake early revegetation/surfacing of exposed soils.*

4.5.52 The discharge of contaminants into air from **dry abrasive blasting** within a permanent facility (**abrasive blasting** booth) that uses **abrasive material** for blasting containing less than 5 % dry weight free silica is a Permitted Activity, subject to the following conditions:

- (a) Conditions (a) to (c) of Rule 4.5.1; and
- (b) Before discharge to atmosphere, all emissions from the **abrasive blasting** booth shall pass through a fabric filter or dry filtration system capable of achieving a discharge rate for particulate of 30 milligrams per cubic metre, corrected to 0 degrees Celsius, 1 atmosphere pressure and a dry gas basis; and
- (c) A differential pressure gauge shall be installed across the fabric filter and the **processing** monitoring equipment shall be fitted with audible alarms; and

- (d) The control equipment shall be certified by an independent chartered professional engineer to demonstrate that the control equipment is adequate to meet the criteria specified in (b) and(c) above; and
- (e) All work areas and surrounding areas shall be kept clean and substantially free of accumulations of deposited blasting material and other debris; and
- (f) **Abrasive material** used for the blasting shall contain less than 2 % by dry weight dust able to pass a 0.15 mm sieve.

*Note: When carrying out **dry abrasive blasting** consideration should also be given to the Health and Safety Regulations set out in the Health Act 1956.*

4.5.53 The discharge of contaminants to air from **vacuum blasting** that uses **abrasive material** for blasting containing less than 5% dry weight free silica is a Permitted Activity, subject to the following conditions:

- (a) Conditions (a) to (c) of Rule 4.5.1; and
- (b) Material collected by the vacuum device shall pass through a fabric filter or other collection system capable of achieving a non-visible discharge; and
- (c) All work areas and surrounding areas shall be kept clean and substantially free of accumulations of deposited **abrasive blasting** material and other debris.

4.5.54 The discharge of contaminants to air from **sweep blasting** that uses **abrasive material** for blasting containing less than 5% dry weight free silica is a Permitted Activity, subject to the following conditions:

- (a) Conditions (a) to (c) of Rule 4.5.1; and
- (b) All work areas and surrounding areas shall be kept clean and substantially free of accumulations of deposited **abrasive blasting** material and other debris.

Controlled Activity

4.5.55 The discharge of contaminants into air from the **open-cast extraction**, or quarrying, or mining, or crushing, or screening or **processing** of minerals, ores and/or aggregates (including coal and coal products) at a rate exceeding 5 tonnes per hour but not exceeding 200 tonnes per hour from any one of these activities is a Controlled Activity, subject to the following standards and terms:

- (a) The **premises** are located outside an Urban Air Quality Management Area given in Map Series 1 and 1A and are a minimum of 200 metres from any dwelling on a neighbouring property or residentially zoned area; and
- (b) There are procedures in place to ensure that the operations are undertaken in such a way as to maintain dust emissions at the minimum practicable level, in particular:
 - i The techniques used to drill, blast and excavate rock;
 - ii The management of all haulage road and open yard areas;
 - iii All crushing, screening and transfer operations;
 - iv The construction and management of stockpiles; and
 - v All removal of **overburden** prior to quarrying and rehabilitation in non-working areas; and
- (c) There is access to sufficient water to allow dust suppression measures to be implemented; and
- (d) Measures to suppress dust through the application of water are adequately provided for through water carts, sprinkler systems and water sprays; and

- (e) The consent applicant shall provide the consent authority with a management plan outlining all methods of managing dust emissions, including identification of future areas and the extent of extraction;

The ARC will have control over the following matters:

- i The methods of the discharge and any effects arising from the methods chosen; and
- ii The adequacy of the control measures proposed for the collection, containment and treatment, and monitoring of any discharge; and
- iii The duration of the consent; and
- iv Monitoring the consent.

Non notification

Applications for controlled activity consent under Rule 4.5.55 shall be considered without public notification in accordance with Section 95A(3) of the RMA, where the consent applicant has obtained written approval of the owners and occupiers of all *adjoining properties*, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Restricted Discretionary Activities

- 4.5.56** The discharge of contaminants into air from *earthworks* or from the construction, maintenance and repair of roads (road works) that does not comply with Rule 4.5.49 is a Restricted Discretionary Activity.

Non notification

Applications for restricted discretionary activity consent under Rule 4.5.56 shall be considered without notification in accordance with Section 95A(3) of the RMA, where the consent applicant has obtained the written approval of the owners and occupiers of all *adjoining properties*, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Explanation:

In order to minimise dust emissions, earthworks or road works that require a restricted discretionary activity consent under Rule 4.5.56 will be required to provide a Dust Management Plan and may be required to undertake video or total suspended particulate monitoring.

- 4.5.57** The discharge of contaminants into air, through a bag filter system, from
- (a) The manufacture of asphalt paving mix; or
 - (b) The mixing of cement powder with other materials to manufacture concrete or concrete products at a rate exceeding a total production capacity of 110 tonnes per day

is a Restricted Discretionary Activity.

- 4.5.58** The discharge of contaminants into air from the temporary crushing of concrete, masonry products, minerals, ores and/or aggregates with a mobile crusher at a rate not exceeding a total on-site capacity of 60 tonnes per hour that does not comply with Rule 4.5.50 or at a rate exceeding a total on-site capacity of 60 tonnes per hour is a Restricted Discretionary Activity.

4.5.59 Outside the Urban Air Quality Management Areas given in Map Series 1 and 1A the discharge of contaminants into air from the storage of coal or coal products outdoors where the storage capacity is less than 2 tonnes and does not comply with Rule 4.5.45, or is more than 2 tonnes and not more 500 tonnes is a Restricted Discretionary Activity.

4.5.60 The discharge of contaminants into air from the **remediation** of a **premises** contaminated by hazardous material that does not comply with Rule 4.5.1 is a Restricted Discretionary Activity.

4.5.61 The discharge of contaminants into air from any dry abrasive, vacuum or **sweep blasting process** that uses **abrasive material** for blasting containing no more than 5 per cent dry weight free silica that does not comply with Rule 4.5.52, Rule 4.5.53 or Rule 4.5.54 is a Restricted Discretionary Activity.

Explanation:

*A region-wide consent may be issued for mobile **abrasive blasting** operators that have a good previous history of operation. It should be noted that **wet blasting** and **wet abrasive blasting** are subject to Permitted Activity Rule 4.5.1. Any discharges to land or water from this activity should refer to the rules in Chapter 5.*

Note: Rule 4.5.24 lists the matters for discretion relating to Rules 4.5.57 to 4.5.61.

Non notification

Applications for restricted discretionary activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Discretionary Activities

4.5.62 The discharge of contaminants into air from the mixing of cement powder with other materials to manufacture concrete or concrete products at a rate exceeding a total production capacity of 110 tonnes per day or from the manufacture of asphalt paving mix that does not comply with Rule 4.5.57 is a Discretionary Activity.

4.5.63 The discharge of contaminants into air from any **process** that includes **open-cast extraction** or quarrying or mining or crushing or screening, or **processing** of minerals, ores and/or aggregates including coal or coal products at a rate that exceeds 200 tonnes per hour from any one of these activities or at a rate exceeding 5 tonnes per hour but not exceeding 200 tonnes per hour from any one of the activities that does not comply with Rule 4.5.55 is a Discretionary Activity.

4.5.64 The discharge of contaminants into air from any **process** that includes the storage of coal or coal products outdoors where the storage capacity is less than 2 tonnes and is in an Urban Air Quality Management Area as given in Map Series 1 and 1A and does not comply with Rule 4.5.45 or is more than 2 tonnes and is within an Urban Air Quality Management Area as given in Map Series 1 and 1A or the storage capacity is more than 500 tonnes is a Discretionary Activity.

4.5.65 The discharge of contaminants into air from any **process** that includes the:

- (a) Sintering, calcining or roasting of metal ores in preparation for smelting;
- (b) Burning of calcium or calcium magnesium carbonates to produce calcium or magnesium oxides or hydroxides (including lime manufacturing);
- (c) Expansion or exfoliation of minerals; or
- (d) Dehydration of gypsum

is a Discretionary Activity.

4.5.66 The discharge of contaminants into air from any **process** that includes the manufacture and/or melting of glass or glass products, including vitrification, with a production capacity of greater than 1 tonne per day is a Discretionary Activity.

4.5.67 The discharge of contaminants into air from any **process** that includes the manufacture of glass or mineral wool is a Discretionary Activity.

4.5.68 The discharge of contaminants into air from any **process** that includes the manufacture of cement or cement products from raw materials is a Discretionary Activity.

For Rules 4.5.62 – 4.5.68 see also Policies 4.4.1 – 4.4.15 and 4.4.25 – 4.4.30

Non-complying Activity

4.5.69 The discharge of contaminants into air from any wet or dry abrasive, vacuum or **sweep blasting process** that uses **abrasive material** for blasting containing more than 5 per cent dry weight free silica is a Non-complying Activity.

Prohibited Activity

4.5.70 The discharge of contaminants into air from any **process** that includes the extraction, **processing** or storage of asbestos or the manufacture of products containing asbestos unless the activity is undertaken for the express purpose of contaminated site **remediation** or the removal of asbestos from existing structures or the reconditioning or replacing of asbestos-containing friction linings to brake or clutch assemblies and is carried out in accordance with relevant legislation is a Prohibited Activity.

Explanation:

Disposal of asbestos to land and remediation of asbestos contaminated land is provided for in the Discharges to Land and Water and Land Management Chapter of this plan.

Other Activities that Discharge Contaminants into Air – Waste Processes

[A509/04/42 Watercare Services Ltd]

Permitted Activities

Explanation:

Waste processes can result in the emission of offensive odours therefore separation distances between dwellings, roads, sensitive land uses, etc are recommended in order to minimise effects beyond the **boundary** of the property where the **waste process** is being undertaken.

[A499/04/06 Waste Management (NZ)Ltd]

4.5.71 The discharge of contaminants into air from the treatment of raw **sewage**, excluding **municipal sewage**, that was generated on-site is a Permitted Activity, subject to conditions (a) to (c) of Rule 4.5.1.

4.5.72 Within the Rural Air Quality Management Areas given in Map Series 1 and 1A, the discharge of contaminants into air from the disposal of not more than 10 tonnes per day of treated **sewage solids** or septage to ground is a Permitted Activity, subject to conditions (a) to (c) of Rule 4.5.1.

4.5.73 The discharge of contaminants into air from any facility that is for the primary purpose of pumping or transfer or storage of raw or partially treated **sewage** is a Permitted Activity, subject to the following conditions:

- (a) Conditions (a) to (c) of Rule 4.5.1 and
- (b) The storage of **sewage** shall be within an enclosed tank of less than 4,000 m³, or
- (c) The storage of **sewage** shall be within an enclosed tank of between 4,000m³ and 10,000m³ that is fitted with an effective odour control system, such as a bio-filter.

- 4.5.74** Subject to conditions (a) to (c) of Rule 4.5.1, the discharge of contaminants into air from the **composting** of **refuse, waste**, organic materials or **green wastes** where either:
- (a) The **composting operation** is fully enclosed and where the total **processing** capacity on-site at any one time is not more than 100 cubic metres;
 - (b) The **composting operation** occurs within an Urban Air Quality Management Area given in Map Series 1 and 1A and the **composting operation** is not fully enclosed and where the total **processing** capacity on-site at any one time is not more than 10 cubic metres; or
 - (c) The **composting operation** occurs outside an Urban Air Quality Management Area given in Map Series 1 and 1A and the **composting operation** is not fully enclosed and either:
 - i The raw materials are only **green waste** and the total **processing** capacity on-site at any one time is not more than 100 cubic metres; or
 - ii The raw materials include **refuse, waste** or organic materials other than **green waste** (e.g. manure or foodscraps) and the total **processing** capacity on-site at any one time is not more than 50 cubic metres

is a Permitted Activity

- 4.5.75** The discharge of contaminants into air from a **green waste** collection station, or **refuse** transfer station with a total capacity on-site of not more than 30 cubic metres of **refuse** and/or not more than 500 cubic metres of **green waste** is a Permitted Activity, subject to the following conditions:

- (a) Conditions (a) to (c) of Rule 4.5.1;
- (b) **Green waste** is kept on-site for no more than three days from the date of receipt; and
- (c) No shredding of **green waste** occurs.

- 4.5.76** The discharge of contaminants into air from a **recycling station** is a Permitted Activity, subject to the following conditions:

- (a) Conditions (a) to (c) of Rule 4.5.1; and
- (b) No **refuse** or **green waste** is collected on-site.

Controlled Activities

- 4.5.77** The discharge of contaminants into air from a **green waste** collection station or **refuse transfer station** with a total capacity on-site of more than 30 cubic metres of **refuse** and/or not more than 500 cubic metres of **green waste** is a Controlled Activity, subject to the following standards and terms:

- (a) The **premises** are either:
 - i Located within an Industrial Air Quality Management Area given in Map Series 1 and 1A and:
 - (1) Have a minimum separation distance of 300 metres from any residentially zoned area; or
 - (2) A minimum notional odour **boundary** of 300 metres through designation or an instrument registered against the land title of the owners of any residential property within 300 metres of the activity. Such designation or registered instrument shall provide a restriction on the owners and occupiers of such land from complaining about any offensive or objectionable odour generated by the activity in respect of that property; or

- ii Located within a Rural Air Quality Management Area given in Map Series 1 and 1A and:
 - (1) Has a minimum of 300 metres from any dwelling on a neighbouring property or residentially zoned area; or
 - (2) A minimum notional odour **boundary** of 300 metres through designation or an instrument registered against the land title of the owners of any residential property within 300 metres of the activity. Such designation or registered instrument shall provide a restriction on the owners and occupiers of such land from complaining about any offensive or objectionable odour generated by the activity in respect of that property;
- (b) The station shall be designed to ensure that litter and dust is kept to a practicable minimum and with sufficient capacity to hold all **waste** materials received on site indoors or under cover (except **green wastes**); and
- (c) All access and transfer areas shall be sealed and designed with sufficient room for the movement of vehicles within the yard area; and
- (d) The consent applicant shall develop clear protocols specifying:
 - i Acceptance criteria for materials delivered to the site; and
 - ii Odour, dust and litter mitigation; and
 - iii Storage, handling and disposal of all types of **refuse** accepted on the site; and
 - iv No shredding of **green waste**.
- (e) The consent applicant shall produce an operations plan outlining the protocols developed in accordance with (d) above and measures to mitigate or prevent adverse effects beyond the **boundary** of the **premises**.

The ARC will exercise control over the following matters:

- i The methods of the discharge and any effects arising from the methods chosen;
- ii The adequacy of the control measures proposed for the collection, containment and treatment, and monitoring of any discharge;
- iii The duration of the consent; and
- iv Monitoring the consent.

Non notification

Applications for controlled activity consent under Rule 4.5.77 shall be considered without public notification in accordance with Section 95A(3) of the RMA, where the consent applicant has obtained written approval of the owners and occupiers of all **adjoining properties**, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Restricted Discretionary Activities

- 4.5.78** The discharge of contaminants into air from a landfill that ceased receiving waste materials (closed landfill) after 1 October 1991, and contained at least 200,000 tonnes of waste materials at time of closure, is a Restricted Discretionary Activity.

*Note: Also refer to rules for **landfills** contained in Chapter 5 Discharges to Land and Water and Land Management.*

- 4.5.79** The discharge of contaminants into air from the **composting** of **refuse**, **waste**, organic materials, or **green wastes** where the **composting operation** is fully enclosed and where the total **processing** capacity on-site at any one time is more than 100 cubic metres and not more than 1000 cubic metres is a Restricted Discretionary Activity.

- 4.5.80** The discharge of contaminants into air from a **green waste(s)** collection station or **refuse transfer station** with a total capacity on-site of more than 30 cubic metres of **refuse** in an Urban Air Quality Management Area and/or more than 500 cubic metres of **green waste(s)** in an Urban Air Quality Management Area or does not comply with either Rule 4.5.75 or Rule 4.5.77 is a Restricted Discretionary Activity.

Non notification

Applications for restricted discretionary activity consent under Rules 4.5.79 or 4.5.80 shall be considered without notification in accordance with Section 95A(3) of the RMA, where the consent applicant has obtained the written approval of the owners and occupiers of all **adjoining properties**, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Explanation:

Materials that will be recycled are not to be included in the 30 cubic metre limit.

- 4.5.81** The discharge of contaminants into air from a **recycling station** that does not comply with Rule 4.5.76 is a Restricted Discretionary Activity.

- 4.5.82** The discharge of contaminants into air from any facility that is for the primary purpose of pumping or storage or transfer of raw or partially treated **sewage** that does not comply with Rule 4.5.73 is a Restricted Discretionary Activity.

Note: Rule 4.5.24 lists the matters for discretion relating to Rules 4.5.78 to 4.5.82.

Discretionary Activities

- 4.5.83** The discharge of contaminants into air from any **process** that includes the treatment of **municipal sewage** or **sewage** generated on-site that does not comply with Rule 4.5.71 is a Discretionary Activity.

- 4.5.84** The discharge of contaminants into air from any **process** that includes the disposal of **sewage solids** or septage to ground where:
- More than 10 tonnes per day of treated **sewage solids** or septage is disposed of to ground;
 - Outside the Rural Air Quality Management Areas given in Map Series 1 and 1A, no more than 10 tonnes per day of treated **sewage solids** or septage is disposed of to ground; or
 - Within the Rural Air Quality Management Areas given in Map Series 1 and 1A, no more than 10 tonnes per day of treated **sewage solids** or septage is disposed of to ground that does not comply with Rule 4.5.72, is a Discretionary Activity.

- 4.5.85** The discharge of contaminants into air from any **process** that includes the **composting** of **refuse, waste, organic materials, or green wastes** where either:
- The **composting operation** does not comply with Rules 4.5.74 or 4.5.79;
 - The **composting operation** is fully enclosed and the total **processing** capacity on-site at any one time is more than 1000 cubic metres;
 - The **composting operation** occurs within an Urban Air Quality Management Area given in Map Series 1 and 1A and is not fully enclosed and the total **processing** capacity on-site at anyone time is more than 10 cubic metres; or
 - The **composting operation** occurs outside an Urban Air Quality Management Area and is not fully enclosed and, either:
 - The raw materials are only **green waste(s)** and the total **processing** capacity on-site at any one time is more than 100 cubic metres; or

- ii The raw materials include **refuse, waste**, or organic materials other than **green waste(s)** (e.g. manure or feedscraps) and the total **processing** capacity on-site at any one time is more than 50 cubic metres, is a Discretionary Activity.

4.5.86 The discharge of contaminants into air from any **premises** that includes the disposal of **waste** materials to **landfill** (including domestic and industrial **wastes**) where the **landfill** was issued with a resource consent or an application has been lodged to discharge contaminants into air prior to 1 January 2002 and the **landfill** is still receiving waste provided the footprint and contours of the **landfill** remain unchanged is a Discretionary Activity.

4.5.87 The discharge of contaminants into air from any **premises** that includes the disposal of **waste** materials to **landfill** (including domestic and industrial **wastes**) where either:

(a) The **landfill** operation is able to maintain a minimum separation distance of one kilometre between the **landfill** footprint and the nearest residential property **boundary** for the **active life of the landfill**; or

(b) The **landfill** operation is able to maintain a minimum notional odour **boundary** of one kilometre through designation or a restrictive covenant registered against the land title of any residential property within one kilometre of the **landfill** footprint for the **active life of the landfill**. Such designation or covenant shall provide a restriction on the owners and occupiers of such land from complaining about any offensive or objectionable odour generated by the **landfill** in respect of that property,

is a Discretionary Activity

[A499/04/05 Waste Management (NZ) Ltd]

4.5.88 The discharge of contaminants into air from any **process** that includes the treatment of industrial, chemical, pathological or **hazardous waste** materials (excluding **municipal sewage**) prior to disposal which are not generated on the **premises** is a Discretionary Activity.

For Rules 4.5.83 – 4.5.88 see also Policies 4.4.1 – 4.4.15 and 4.4.25 – 4.4.30

Non-complying Activity

4.5.89 The discharge of contaminants into air from any **process** that includes the disposal of **hazardous waste** materials to **landfill**, or the disposal of **waste** materials which are not generated on-site to **landfill** that does not comply with either Rule 4.5.86 or Rule 4.5.87 is a Non-complying Activity.

Explanation:

*Rules 4.5.71, 4.5.72, 4.5.83 and 4.5.84 exclude solid and liquid **wastes** including wash water from animal sources such as poultry farms and piggeries. Rules 4.5.74, 4.5.79 and 4.5.85 exclude the spreading of manure or litter over production land.*

Other Activities that Discharge Contaminants into Air – Food and Animal or Plant Matter Processes

Restricted Discretionary Activities

4.5.90 The discharge of contaminants into air from the fermentation of plant matter for the purpose of producing alcoholic beverages at a rate that exceeds 25 million litres per year is a Restricted Discretionary Activity.

Note: Rule 4.5.24 lists the matters for discretion relating to Rule 4.5.90

Discretionary Activities

4.5.91 The discharge of contaminants into air from any of the following **processes**

- (a) flour or grain milling;
- (b) deep fat or oil frying;
- (c) curing by smoking;
- (d) roasting or drying of berries, grains or plant matter; or
- (e) the refining of sugar.

at a rate exceeding 250 kg per hour of product is a Discretionary Activity.

4.5.92 The discharge of contaminants into air from the manufacture of yeast or starch is a Discretionary Activity.

4.5.93 The discharge of contaminants into air from any **process** that includes the following:

- (a) The treatment of abattoir **wastes**, or abattoir **waste** water on the **premises**;
- (b) The rendering, reduction or drying of animal matter through the application of heat;
- (c) The preservation of animal hides or skins or the removal of hair, wool or feathers (including tanneries and fellmongeries) by chemical or heat treatment;
- (d) Wool scouring operations or dag crushing;
- (e) The drying of milk products to produce milk powders;
- (f) The manufacture of animal casings;
- (g) The extraction, distillation or purification of animal or vegetable fats and oils;
- (h) Carpet manufacturing; or
- (i) Petfood manufacture by the application of heat,

is a Discretionary Activity.

For Rules 4.5.91 – 4.5.93 see also Policies 4.4.1 – 4.4.15 and 4.4.25 – 4.4.30

Other Activities that Discharge Contaminants into Air – Chemical Processes

Discretionary Activities

Explanation:

This section of the plan excludes discharges into air from small laboratory scale and home hobby operations.

Note: Chemical processes include every part of a process as specified in the definition of 'industrial and trade processes' in Section 2 of the RMA.

4.5.94 The discharge of contaminants into air from chemical **process** activities that are not provided for by another rule in this chapter, including any of the following:

- (a) The bodying of oils or manufacture of monomers, synthetic resins, varnishes, plastics or adhesives;
- (b) The storage, manufacture or use of acrylates;
- (c) The production of soap, grease, or surface active agents;
- (d) The synthesis or extraction of organic chemicals, including synthesis, extraction, blending or formulation of **agrichemicals**, or plant hormones;
- (e) The production of inorganic chemicals, including concentration of acids or anhydrides, ammonia or alkalis;

- (f) The production or blending of **fertilisers**, including the granulation of single or mixed **fertilisers**;
- (g) Solvent manufacture or recovery;
- (h) Distillation, refining or other **processing** of petroleum or petrol products;
- (i) Total or partial disposal of solid or liquid substances by chemical decomposition;
- (j) Dry distillation of coal or lignite;
- (k) Production of metals or nonmetals by a wet **process** or by means of electrical or mechanical energy;
- (l) Production, **processing** or treatment of organic or inorganic compounds;
- (m) The separation, dewatering through the application of heat or distillation of **hydrocarbons** (including used (**waste**) oil);
- (n) The use of bitumen in the manufacture of products other than roading mix;
- (o) The carbonising or destructive distillation of **hydrocarbons** where the solid, liquid or **gaseous products** are recovered;
- (p) The gasification of any hydrocarbon by partial combustion with air or oxygen or reaction with steam;
- (q) The manufacture of explosives;
- (r) The manufacture of paints, inks or powder coatings;
- (s) Industrial gas manufacturing; or
- (t) The manufacture of semiconductors,

is a Discretionary Activity

Explanation:

*Any chemical **process** not covered in Rule 4.5.94 is unlikely to comply with Rule 4.5.1 and will therefore most likely be assessed under Rule 4.5.2 or 4.5.98.*

4.5.95 The discharge of contaminants into air from any **process** that includes the manufacture of fibreglass products with a production capacity of more than 5 tonnes per day or the use of resins at a rate exceeding 200 kilograms per hour is a Discretionary Activity.

4.5.96 The discharge of contaminants into air from any **process** that includes the use of diisocyanates, methylene chloride or organic plasticisers at a rate exceeding a total of 100 kilograms per hour is a Discretionary Activity.

4.5.97 The discharge of volatile organic compounds (including solvents) into air at a rate exceeding 20 kilograms per hour or 10 tonnes per year (excluding the ventilation, displacement or dispensing of **motor fuels** covered by Rules 4.5.100 to 4.5.103) is a Discretionary Activity.

4.5.98 The discharge of **hazardous air pollutants** into air that does not comply with Rule 4.5.1 and is not provided for by any other rule in the Plan is a Discretionary Activity.
For Rules 4.5.94– 4.5.98 see also Policies 4.4.1 – 4.4.15 and 4.4.25 – 4.4.30

Prohibited Activity

4.5.99 The discharge of contaminants into air from nuclear power generation is a Prohibited Activity.

Other Activities That Discharge Contaminants Into Air – Ventilation, Displacement And Dispensing Of Motor Fuels

Permitted Activities

- 4.5.100** The discharge of volatile organic compounds (including solvents) into the air from:
- The ventilation or displacement of air or vapour from storage tanks containing **motor fuels** installed prior to 1 January 2007;
 - The ventilation or displacement of air or vapour from **motor fuel** tankers (excluding petrol vapour);
 - The ventilation or displacement of air or petrol vapour from **motor fuel** tankers prior to 1 July 2008; or
 - The dispensing of **motor fuels**;
- is a Permitted Activity, subject to conditions (a) to (c) of Rule 4.5.1.

- 4.5.101** The discharge of volatile organic compounds (including solvents) into air from the ventilation or displacement of air vapour from storage tanks containing **motor fuels** where tanks are installed, or replaced (for existing tanks) on or after 1 January 2007 is a Permitted Activity, subject to the following conditions:
- Conditions (a) to (c) of Rule 4.5.1; and
 - That from 1 July 2008 petrol vapour arising from storage tank filling is captured from each installed or replaced petrol tank.

Restricted Discretionary Activities

- 4.5.102** The discharge of volatile organic compounds (including solvents) into air from:
- The ventilation or displacement of air or vapour (including petrol vapour) from:
 - Storage tanks containing **motor fuels**; or
 - Motor fuel** tankers, or
 - The dispensing of **motor fuels**

that does not comply with Rules 4.5.100 or 4.5.101 is a Restricted Discretionary Activity.

- 4.5.103** The discharge of contaminants into air from a premise storing more than one million litres of petrol on-site is a Restricted Discretionary Activity.

Note: Rule 4.5.24 lists the matters for discretion relating to Rules 4.5.102 and 4.5.103.

Other Activities That Discharge Contaminants Into Air – Metallurgical Processes

Permitted Activities

- 4.5.104** The discharge of contaminants into air from the melting of any metal or metal alloy used in the **process** of welding, or jewellery manufacture is a Permitted Activity subject to conditions (a) to (c) of Rule 4.5.1.
- 4.5.105** The discharge of contaminants into air from the mechanical shredding of scrap indoors (including the mechanical removal of plastic or rubber covering from cable) is a Permitted Activity, subject to conditions (a) to (c) of Rule 4.5.1.

Restricted Discretionary Activities

- 4.5.106** The discharge of contaminants into air from the melting of any metal or metal alloy with a melting capacity of no more than 1 tonne per hour is a Restricted Discretionary Activity.
- 4.5.107** The discharge of contaminants into air from electroplating is a Restricted Discretionary Activity.
- 4.5.108** The discharge of contaminants into air from the melting of any metal or metal alloy used in the **process** of welding or jewellery manufacture that does not comply with Rule 4.5.104 is a Restricted Discretionary Activity.

Note: Rule 4.5.24 lists the matters for discretion relating to Rules 4.5.106 to 4.5.108.

Discretionary Activities

- 4.5.109** The discharge of contaminants into air from the mechanical shredding of scrap outdoors (including the mechanical removal of plastic or rubber covering from cable), or indoors that does not comply with Rule 4.5.105 is a Discretionary Activity.
- 4.5.110** The discharge of contaminants into air from any **process** that includes 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 drum reconditioning and the removal by heat of plastic or rubber covering from cables) is a Discretionary Activity.
- 4.5.111** The discharge of contaminants into air from any **process** that includes the extraction, including electrochemical methods of reduction, of any metal or metal alloy from its ore, oxide or other compounds is a Discretionary Activity.
- 4.5.112** The discharge of contaminants into air from any **process** that includes the manufacture of steel, the refining of any metal, or the modification of any alloy in the molten state is a Discretionary Activity.
- 4.5.113** The discharge of contaminants into air from the melting of any metal or metal alloy with a melting capacity of more than 1 tonne per hour is a Discretionary Activity.
- 4.5.114** The discharge of contaminants into air from galvanizing is a Discretionary Activity.

For Rules 4.5.109 – 4.5.114 see also Policies 4.4.1 – 4.4.15 and 4.4.25 – 4.4.30

Other Activities That Discharge Contaminants Into Air – Production Land Activities And Intensive Livestock Farming

Permitted Activities

- 4.5.115** The discharge of contaminants into air from the disposal of livestock and **offal**, using **offal holes** or shallow trenches, or the manufacture or storage of silage is a Permitted Activity, subject to conditions (a) of Rule 4.5.1.
- 4.5.116** The discharge of contaminants into air from any **process** that includes the **intensive livestock farming** of not more than 10,000 **poultry**, subject to conditions (a) to (c) or Rule 4.5.1.

Controlled Activities

- 4.5.117** The discharge of contaminants into air from the **intensive livestock farming** indoors of more than 25 **pig equivalents** where the discharge was lawfully established or authorised prior to 21 October 2001 is a Controlled Activity, subject to the following standards and terms:

(a) Conditions (a) to (c) of Rule 4.5.1; and

- (b) Any change in the activity shall not change the character or increase the scale or intensity of any adverse effects of the activity on the environment; and
- (c) The activity shall have no verified complaints of objectionable effects of odour or particulate matter that has resulted in enforcement action being taken against the discharger in the two years prior to the consent application; and
- (d) A management plan, which accurately records all management, operational and monitoring procedures, methodologies and contingency plans necessary to comply with condition (a).

The ARC will exercise control over the following matters:

- i The methods of discharge and any effects arising from the methods chosen; and
- ii The adequacy of the control measures proposed for the collection, containment and treatment, and monitoring of any discharge; and
- iii The monitoring of the consent; and
- iv The duration of the consent.

Rule 4.5.117 will become operative in the southern half of the Auckland Region (Auckland City Council, Manukau City Council, Franklin District Council, Papakura District Council) 6 months from the date that the rule becomes operative, and in the northern half of the Auckland Region (Rodney District, Waitakere City Council and North Shore City Council) 1 year from the date that the rule becomes operative.

4.5.118 The discharge of contaminants into air from any *process* that includes the *intensive livestock farming* of more than 10,000 *poultry* that was lawfully established or authorised prior to 21 October 2001 is a Controlled Activity, subject to the following standards and terms:

- (a) Conditions (a) to (c) of Rule 4.5.1; and
- (b) Any change in the activity shall not change the character or increase the scale or intensity of any adverse effects of the activity on the environment; and
- (c) The activity shall have no verified complaints of offensive or objectionable effects that have resulted in enforcement action being taken by the ARC in respect of the activity in the two years prior to the consent application; and
- (d) A management plan, which accurately records all management, operational and monitoring procedures, methodologies and contingency plans necessary to comply with condition (a).

The ARC will exercise control over the following matters:

- i The methods of discharge and any effects arising from the methods chosen; and
- ii The adequacy of the control measures proposed for the collection, containment and treatment, and monitoring of any discharge;
- iii The monitoring of the consent; and
- iv The duration of the consent.

Rule 4.5.118 will not apply in the southern half of the Auckland Region (Auckland City Council, Manukau City Council, Franklin District Council, Papakura District Council) until 6 months from the date that the rule becomes operative, and in the northern half of the Auckland Region (Rodney District Council, Waitakere City Council and North Shore City Council) until 1 year from the date that the rule becomes operative.

Non notification

Applications for controlled activities shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA.

Restricted Discretionary Activities

4.5.119 The discharge of contaminants into air from any **process** that includes the **intensive livestock farming** of more than 10,000 but not more than 180,000 **chickens** that commenced operation on or after 21 October 2001 is a Restricted Discretionary Activity subject to the following standards and terms:

- (a) The **premises** (measured from the exhaust vents closest to the neighbouring property) shall be located a minimum of 400m from the property boundary or notional property boundary. The notional property boundary shall be established through an instrument registered against the land title or any neighbouring property within the buffer area. Such registered instrument shall provide a restriction on the owners and occupiers of such land from complaining about any offensive and objectionable odours or dust within the buffer area generated by the intensive livestock **chicken** farm.
- (b) A Management Plan for the activity detailing:
 - (i) Environmental objectives and targets, use of best practicable options, performance reviews, checklists.
 - (ii) Shed management details including ventilation and litter management.
 - (iii) Drinker and feeding systems operation.
 - (iv) Harvest and cleanout, dead bird management.
 - (v) Waste management and litter disposal.
 - (vi) Complaints system and management including schedule of neighbouring properties and contact phone list.

Note: Rule 4.5.24 lists the matter for discretion relating to rule 4.5.119.

Rule 4.5.119 will not apply in the southern half of the Auckland Region (Auckland City Council, Manukau City Council, Franklin District Council, Papakura District Council) until 6 months from the date that the rule becomes operative, and in the northern half of the Auckland Region (Rodney District Council, Waitakere District Council and North Shore City Council) until 1 year from the date that the rule becomes operative.

Notification

Applications for a restricted discretionary activity under Rule 4.5.119 shall be considered without public notification or the need to serve notice of the application on affected persons in accordance with Sections 95A(3) and 95B(2) of the RMA, unless in the opinion of the ARC there are special circumstances justifying public notification in accordance with Section 95A(4) of the RMA, and except where an existing operation has verified complaints of offensive or objectionable effects beyond the boundary of the property in the two years prior to the resource consent application.

Discretionary Activities

4.5.120 The discharge of contaminants into air from any **process** that includes the **intensive livestock farming** indoors of more than 25 **pig equivalents** and does not comply with Rule 4.5.117 is a Discretionary Activity.

Explanation:

Rule 4.5.120 is intended to apply to large-scale indoor piggery operations rather than to small hobby farms.

- 4.5.121** The discharge of contaminants into air from any **process** that includes **intensive livestock farming of poultry** on site and does not comply with Rule 4.5.116, Rule 4.5.117 or Rule 4.5.119 is a Discretionary Activity.

Rule 4.5.121 will not apply in the southern half of the Auckland Region (Auckland City Council, Manukau City Council, Franklin District Council, Papakura District Council) until 6 months from the date that the rule becomes operative, and in the northern half of the Auckland Region (Rodney District Council, Waitakere City Council and North Shore City Council) until 1 year from the date the rule becomes operative.

For Rules 4.5.120 and 4.5.121 see also Policies 4.4.1 – 4.4.15 and 4.4.25 – 4.4.30

Non-complying Activity

- 4.5.122** The discharge of contaminants into air from any **process** that includes cattle **feedlots** is a Non-complying Activity.

4.6 Other Methods

- 4.6.1** The ARC will, in partnership with key stakeholders and the community:
- Develop, implement, monitor and review an Auckland Regional Air Quality Management Strategy to identify specific actions to be undertaken in relation to motor vehicles and **domestic fires** by ARC, key stakeholders and the community; and
 - Implement, monitor and review the Air Quality Environmental Education and Action Plan to ensure the most effective and efficient education and advocacy methods are carried out.
- 4.6.2** The ARC will monitor current air quality levels and progress towards the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets by various methods including:
- Ambient and meteorological monitoring;
 - Emission inventories and urban air shed models;
 - Surveys; and
 - Transport indicators, for example congestion, vehicle kilometres travelled and fuel consumption,
- and the results of monitoring will be regularly published and publicised.
- 4.6.3** The ARC will review progress towards achieving the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets by 2006 and if the standards and targets are not likely to be met will consider whether further measures are required to manage discharges of contaminants into air, in particular in relation to motor vehicles and **domestic fires**.
- 4.6.4** The ARC may review the Auckland Regional Air Quality Targets in 2006, in particular to consider lower targets for PM₁₀ and PM_{2.5}, which are known to cause significant adverse health effects at the target levels.
- 4.6.5** The ARC will consult with TAs to ensure that land use provisions of district plans are aligned with the objectives, policies and rules of this plan. This will include reviewing resource consent applications and district plan reviews, changes and variations to ensure that adequate separation distances are maintained between industrial and rural (e.g. **intensive livestock farming**) activities and sensitive land uses to minimise the effects of **reverse sensitivity**.

4.6.6 The ARC will, in partnership with other organisations, encourage the adoption of the best practical option for activities that discharge contaminants into air by:

- (a) Promoting the development and use of appropriate industry codes of practice and guidance documents to encourage best practice and effective methods to minimise the discharge of contaminants into air;
- (b) Supporting the development and distribution of education material relating to effective methods of minimising the discharges of contaminants into air;
- (c) Reducing compliance costs for those activities that adopt best practice; and
- (d) Encouraging the use of new technologies that minimise the discharge of contaminants into air.

4.6.7 The ARC will liaise with other agencies responsible for administering regulatory requirements relating to discharges into air to ensure that a consistent approach is adopted by those agencies and that the jurisdictional boundaries are clearly defined.

Mobile Sources

4.6.8 The ARC will, through the Regional Growth Strategy and Regional Land Transport Strategy processes, facilitate and encourage integration of transport issues by promoting integrated land use and transport planning which reduces the need for motor vehicle travel.

4.6.9 The ARC will, in partnership with other organisations, promote measures to reduce the reliance on the private motor vehicle and other measures to minimise discharges into air from **mobile sources**, including:

- (a) Measures to manage travel demand and influence driver behaviour;
- (b) The use of alternatives, for example passenger transport, walking, cycling, and teleworking;
- (c) Measures to reduce emissions from in service vehicles, including vehicle maintenance;
- (d) The frequent replacement of fleet vehicles;
- (e) The use of less polluting and more efficient vehicles; and
- (f) The use of alternative fuels with lesser adverse environmental effects than petrol and diesel.

4.6.10 The ARC will advocate that central government manage the level of individual vehicle emissions by specifying:

- (a) Improved fuel specifications;
- (b) Appropriate emission standards for new and used imported vehicles;
- (c) Age limits on imported vehicles (excluding those of historical interest); and
- (d) Appropriate measures to manage emissions from in service vehicles, including in relation to grossly polluting vehicles.

4.6.11 The ARC will develop emission standards and 'best practicable options' to ensure that, through its tender and contracting process, passenger transport vehicles used on contracted services have the lowest practicable emission levels.

Explanation:

'Best Practicable Options' in this context include: turning idling engines off, training bus operators, and regular maintenance of vehicles.

- 4.6.12** In developing the Regional Air Quality Management Strategy the ARC will, in partnership with other organisations, investigate the feasibility of regional and local initiatives to avoid, remedy or mitigate the effects of air pollution from motor vehicles in order to achieve the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets. Examples of local or regional options include:
- Regional or 'public transport' fuel specifications or standards;
 - Regional emission requirements;
 - Voluntary programmes or incentives to reduce vehicle emissions, for example through retrofit of catalytic converters onto older vehicles;
 - The use of remote sensing to identify highly polluting vehicles that do not meet regional emissions requirements;
 - Measures to encourage use of fuels with lesser environmental effects, particularly for high mileage fleet vehicles; and
 - Improved management of the impacts on air quality from land use planning of sensitive activities, growth areas and busy roadways.

- 4.6.13** The ARC will develop guidelines for assessing the air quality effects of discharges to air from land transport.

- 4.6.14** The ARC will encourage and support **Territorial Authorities** to consider air quality along with other major policy areas such as safety, environmental sustainability and accessibility. (This may be achieved in part through the Ministry of Transport's Environmental Capacity Framework which enables people managing transport to evaluate the environmental impacts of transport management decisions).

Domestic Fires

- 4.6.15** The ARC will, in partnership with TAs and other organisations including the New Zealand Home Heating Association, promote the adoption of operational best practice for **domestic fires** by:
- Providing and supporting the distribution of education material relating to safe, efficient and effective use of **domestic fires**;
 - Encouraging the use of clean burning fuels and providing and supporting the distribution of educational material relating to the appropriate use of wood;
 - Providing and maintaining a list of solid fuel burning appliances that comply with Rule 4.5.7 and providing TA staff with advice notes on the application of this list to the building consent process; and
 - Supporting the correct installation (by **trained installers**) of **domestic fires** in accordance with the Building Act 1991, relevant New Zealand Standards and manufacturers specifications and instructions by providing training seminars or presenting training information at professional institute members' meetings.
- 4.6.16** The ARC will, in partnership with other organisations including the Energy Efficiency Conservation Authority (EECA), promote and advocate:
- Alternative methods of sustainable **domestic heating**, such as active solar heating;
 - Methods that reduce the requirement for additional **domestic heating**, such as insulation and passive solar heating;
 - Efficient and effective heating of dwellings; and
 - Replacement of existing **open fires** and older solid fuel heating appliances, with efficient, low emission **domestic fires** (i.e. that comply with Rule 4.5.7).

Outdoor Burning

- 4.6.17** The ARC will, in partnership with other organisations including the New Zealand Fire Service and TAs, promote and advocate the adoption of operational best practice for **outdoor burning** by supporting the distribution of education material relating to the safe and efficient use of outdoor fires.
- 4.6.18** The ARC will promote and advocate alternative methods for the disposal of vegetation and other **wastes**, for example, **composting**, mulching and recycling.
- 4.6.19** The ARC will encourage **Territorial Authorities** to incorporate kerbside collections for compostable kitchen and garden **waste** into recycling collections.
- 4.6.20** The ARC will consult with other organisations including TAs and relevant industry groups to ensure that practicable alternative methods for the disposal of vegetation and other **wastes** are available.

Other Activities That Discharge Contaminants Into Air

- 4.6.21** The ARC will liaise with the relevant TA in circumstances where there is the potential for discharge of **landfill** gas from a **landfill** as described in Rule 4.5.78 to provide appropriate provisions within the relevant District Plan.

Global Air Quality

- 4.6.22** The ARC will advocate that central government provide:
- (a) Clear emission reduction targets for sectors emitting **greenhouse gases** and **ozone depleting substances**;
 - (b) Internationally acceptable alternatives to methyl bromide;
 - (c) An equitable target setting system for individual discharges of **greenhouse gases**;
 - (d) Incentives for the efficient production, use and transmission of energy;
 - (e) Positive reinforcement systems for the development of renewable energy generation facilities and co-generation plants;
 - (f) Positive reinforcement systems for reducing any greenhouse gas emissions including CO₂ and methane;
 - (g) If carbon sinks become part of central government policy, further information on the following:
 - i **Remediation** options for **greenhouse gases** particularly through the development of carbon sinks;
 - ii The implications of forest planting on future generations, particularly with respect to land-use priorities, and the definition of perpetuity; and
 - iii The carbon sink abilities of plantation forests compared with other land uses such as indigenous vegetation and pasture.
 - (h) Encouragement for the recovery, re-use and recycling of ozone-depleting substances and the use of alternatives where appropriate.
- 4.6.23** The ARC will, in consultation with the appropriate expert organisations and central government, assess the potential effects of climate change on the Auckland Region.

4.7 Anticipated Environmental Results

The two key anticipated environmental results for air quality in the Auckland Region are minimisation of adverse effects on human health (including cardiovascular and respiratory diseases such as angina, asthma and lung cancer), fewer restricted activity days and premature deaths associated with motor vehicle emissions, and improved **amenity** for people. Significant adverse effects on human health should not occur provided the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets are achieved and **hazardous air pollutants** are not discharged at significant levels. However, it should be recognised that there is no known safe level of particulate, therefore it is recognised that it may be necessary to review the targets for PM₁₀ and PM_{2.5}. Significant changes to the management of **mobile sources** and **domestic fires** are required to enable the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets to be met.

Adverse effects on **amenity** such as odour, dust, and visible emissions depend on levels of public acceptability that can differ across the region. It is anticipated that acceptable levels of **amenity** can occur when activities are adequately managed and controlled and are located in appropriate areas. Complaints can be used as a measure of any improvements made in **amenity** levels. It is anticipated that regional visibility, which is also an **amenity** issue, will be improved in conjunction with achieving the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets as regional visibility is primarily a consequence of other primary pollutants.

Some of the more specific anticipated environmental results to be achieved by the Air Quality Chapter of this plan include:

- (a) **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets for particulate, carbon monoxide, nitrogen dioxide, and ozone are met by decreasing the quantity and increasing the quality of discharges of contaminants into air from individual motor vehicles. A holistic approach to managing the environmental effects of transport is achieved, including by optimising the management of the roading network.
- (b) Cumulative effects from **domestic fires** in **urban areas** are minimised by reducing discharges from individual fires so that the **National Environmental Standards for Ambient Air Quality** and the Auckland Regional Air Quality Targets for particulate, and carbon monoxide will be achieved, and localised adverse effects from **domestic fires** such as odour and smoke are prevented.
- (c) Adverse effects on **amenity** from **outdoor burning** are avoided in **urban areas**, and minimised in rural areas.
- (d) Adverse effects from the discharge of contaminants into air from individual sources such as industrial **processes**, **waste** management activities and production land activities are minimised by reducing the quantity and improving the quality of any **hazardous air pollutants** or noxious, dangerous, offensive or objectionable odour, particulate, smoke, dust, ash or visible emissions.
- (e) A positive contribution is made by the Auckland Region towards any national efforts to minimise the discharge of **greenhouse gases** and **ozone depleting substances** into air in accordance with central government legislation and/or statutory policy.