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## 4.0 POLICIES FOR AIR QUALITY MANAGEMENT

### 4.1 Introduction

This section of the Plan contains policies to assist the Gisborne District Council to carry out its functions for the control of the discharge of contaminants to air. The policies are all related to the Objectives outlined in Chapter 3. They are divided into 4 sections: policies for Tangata Whenua; policies for the management of ambient air quality; general policies for controlling discharges of contaminants to air; and policies for specific sources of discharges of contaminants to air.

### 4.2 Policies for Tangata Whenua

#### 4.2.1 To acknowledge the relationship Tangata Whenua have with the air resource, primarily through enabling the active participation in their management of the resource

Explanation and principal reason: Section 6(e) of the Resource Management Act 1991 directs all persons exercising functions and powers under the Act to recognise and provide for the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, wahi tapu and other taonga as a matter of national importance. The Regional Policy Statement for Gisborne also directs this in policies under 9.2.2, 9.3.2 and 9.4.2. Sections 7(a) and 8 of the Resource Management Act 1991 direct all persons exercising functions and powers under the Act, to have particular regard to kaitiakitanga and to take into account the principles of the Treaty of Waitangi. In doing this, it is necessary for Council to ensure the Tangata Whenua of the Gisborne region have the ability to actively participate in the management of the air resource.

*Methods 5.2.4, 5.4.3<sup>1</sup>*

### 4.3 Policies for the Management of Ambient Air Quality

#### 4.3.1 The ambient air quality of the Gisborne Region should be maintained within 66% of the Ambient Air Quality Guidelines in Table 1, Appendix 1

Explanation and principal reason: The Act requires an effects-based approach to managing the quality of the air resource. Guidelines or standards assist in measuring the effects of activities on existing ambient air quality. Guidelines or standards are also important as targets for areas with degraded air quality and as parameters to measure the effectiveness of air quality initiatives and control strategies.

The ambient air quality indicators have been adopted to be consistent with the National Ambient Air Quality Guidelines and because insufficient information exists at a regional level at present.

The use of the 66% threshold in this policy indicates that the Region will endeavour to maintain the current standard of air quality. It is stated by the Ministry of the Environment in their Environmental Performance Indicator Programme that where the 66% threshold is exceeded the ambient air quality begins to degrade, requiring enhancement of the quality of the air in the air shed. These Guidelines are not intended to be used to set individual emission limits.

The policy recognises the time involved in organising responses where air quality levels are exceeded. The 66% threshold provides an alert warning level indicating that if trends are not curbed then the guidelines may be exceeded.

Therefore, ambient air quality in the Gisborne Region should be managed to stay within 66% of the Guideline levels, to ensure air quality is being maintained.

*Methods 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5*

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<sup>1</sup> Cross referencing has been provided within the Plan to give an indication of the linkages between the issues, objectives, policies, methods and rules. It is not intended to be an exhaustive list of all possibilities only a guide and does not override the section 104 requirements of the Resource Management Act 1991.

#### **4.3.2 Actively seek to improve information and knowledge available regarding air quality and its management**

Explanation and principal reason: At present there is a lack of information and data available at both a national and regional level on all facets of air quality management. This includes sources, types of contaminants, effects on the environment and environmental conditions affecting air quality. To improve management of the air resource, it is necessary to actively seek further information and data. This will lead to more informed decisions regarding management of air quality in the short and long term, more effective resourcing and targeting of issues and the ability to reduce the effects of discharges to air on the environment to a greater extent.

*Methods 5.2.1 – 5.2.5, 5.4.2, 5.5.1, 5.6.1*

*Rules 1, 3, 7, 8, 9, 11, 12, 13, 14.*

### **4.4 General Policies for Controlling Discharges of Contaminants to Air**

#### **4.4.1 A cautious approach shall be taken when there is scientific uncertainty as to the effects a contaminant discharged to air has on the environment and where the discharge has the potential to result in serious or irreversible harm to the environment**

Explanation and principal reason: Often it is not known what effect some contaminants are going to have on the environment. This is usually because of a lack of understanding, incomplete data or the inability to measure levels or effects. When this involves discharges that are more than minor and have the potential to cause adverse effects, a cautious approach should be undertaken.

*Method 5.6.1*

*Rules All rules*

#### **4.4.2 Adverse effects from the discharge of hazardous air contaminants should be avoided as far as practicable. If complete avoidance is not practicable, adverse effects should be mitigated in preference to remediation. Preference should be given to:**

- a) Avoiding or minimising discharges of hazardous air contaminants where practicable; and
- b) Containing hazardous air contaminants rather than allowing their release and ultimate dispersion

Explanation and principal reason: This policy recognises that there are contaminants discharged to air by a range of industrial, commercial, agricultural and domestic users within the Gisborne Region that have the potential to have hazardous, toxic or dangerous effects on people and other aspects of the environment if not controlled or managed correctly. The Ministry for the Environment's Ambient Air Quality Guidelines (1994) contain a list of 170 known hazardous air contaminants. It notes that the list is not exhaustive and there may be additional substances in use in New Zealand that pose health and environmental concerns that are not included.

The policy provides guidance on how to manage these discharges. Reliance on quantitative guidelines alone is not flexible enough to accommodate all discharges, as information is not always available and this approach does not always guarantee adverse effects will not occur. However, this does not mean that the discharge of any amount of hazardous, noxious, dangerous or toxic contaminants will cause adverse effects. Discharges should not occur in a rate or manner that may cause adverse effects on people, including future generations, and other aspects of the environment.

*Methods 5.6.1*

*Rules 1-7, 9, 11, 12, 20*

**4.4.3 The discharge of odorous contaminants should not result in offensive or objectionable effects on amenity values and human health and wellbeing**

Explanation and principal reason: Adverse effects from odorous discharges have the potential to occur in many areas in the Gisborne Region, particularly those effects arising from agricultural activities and industrial processing plants. The predominant effects of odour are amenity effects and effects on human health and wellbeing. The policy recognises that it may not be possible to avoid all detectable odours, but focuses on adverse effects from objectionable or offensive odours. What is objectionable or offensive will depend on the frequency of the exposure, the intensity or concentration of odour, the duration of exposure to odour and also the timing and location of the odorous discharge. What is offensive or objectionable will be determined initially by Council officers who have experience in odour complaints and have had their noses calibrated using olfactometry, using a recognised procedure. Where necessary and appropriate, further monitoring and assessment of odours may occur through a number of measures.

*Methods 5.2.5, 5.3.1, 5.4.2, 5.5.1, 5.6.1*

*Rules 1 - 6, 8, 15, 16, 18 - 23, 25, 26*

**4.4.4 Discharge of smoke, dust and other particulate matter should not occur at a volume, concentration, rate or in a manner that results in:**

- a) Potential adverse effects on human health or the health and functioning of ecosystems;
- b) Adverse effects on amenity values (including nuisance and significant reductions in visibility); or
- c) Soiling of or damage to property

Explanation and principal reason: This policy seeks to ensure the adverse effects from the discharge of dust, smoke and other particulate do not occur. There are many sources of these contaminants within the Gisborne Region including:

- a) Area sources causing dust such as roads, subdivision and construction land and vehicle loads;
- b) Combustion sources from industrial, commercial and domestic activities;
- c) Localised discharges of particulate from industrial operations such as abrasive blasting, quarrying etc; and
- d) Use, storage and handling of fertiliser.

The volume, concentration, rate and/or manner of these discharges as well as the location of the discharge and the nature of the surrounding environment will influence the effects on human health, ecosystems, amenity values or property. The presence of smoke and other particulate in the air can cause irritation to breathing passages, lung damage (from the discharge of smaller particles (PM<sub>10</sub>) in particular), other health effects, a reduction of visibility, soiling of property once deposited and pose a risk to natural ecosystems. It is important that measures are adopted in order to manage these discharges.

*Methods 5.3.1, 5.4.1, 5.5.1, 5.6.1*

*Rules 1 - 16, 18, 19, 20, 23 - 26*

**4.4.5 To recognise that some receiving environments in the Gisborne Region are more sensitive to the discharge of contaminants to air than others. Consideration shall be given to the potential effects of the discharge of contaminants on:**

- a) Residences and places of public and private assembly (including parks, playgrounds, reserves, beaches, early childhood education centres, schools, hospitals, health care or medical centres) where the discharge may result in a reduction in amenity values or adversely affect human health;

- b) Public roads and airports where the discharge may result in a reduction in visibility or otherwise jeopardise the safe and efficient use of this infrastructure;
- c) Domestic and community water supplies where the discharge may result in adverse effects on human health;
- d) Wetlands, lakes and rivers and their margins where the discharge may damage the life supporting capacity of water, the aquatic ecosystems or the natural character;
- e) Sensitive crops or farming systems where the discharge may result in damage to crops or animals or jeopardise the ability for people to provide for their economic wellbeing;
- f) Significant indigenous vegetation and significant habitats of indigenous fauna as defined in the Proposed Gisborne District Combined Regional Land and District Plan (Post- Decisions Annotated Version 2000), including areas containing threatened species where the discharge may result in damage to these indigenous species or habitats;
- g) The coastal environment, in particular within 200m landward of Mean High Water Springs where the discharge may result in a loss of natural character; and
- h) Sites of special significance to Tangata Whenua, as identified in the Proposed Gisborne District Combined Regional Land and District Plan 1997.

Explanation and principal reason: This recognises that there are receiving environments within the Gisborne Region that are more sensitive to the discharge of contaminants to air and special recognition and provision should be given to them. The areas listed comprise a combination of areas of national importance under section 6 of the Resource Management Act 1991 and resource and values of importance to the Gisborne Region.

The protection of these areas from the adverse effects of discharges of contaminants to air should occur when managing individual discharges and when managing ambient air quality taking into account the need to address legitimate existing uses and reverse sensitivity.

*Methods 5.4.1, 5.4.2, 5.4.3, 5.6.1*

*Rules All rules*

#### **4.4.6 To ensure that the potential adverse effects on alternative receiving environments (e.g. water or soil) are taken into account when managing discharges of contaminants to air**

Explanation and principal reason: This policy identifies the need to consider the sensitivity of the receiving environment the discharge is released into. It requires the consideration of the possibility of discharging the contaminant into other receiving environments to ensure that discharging to air provides the most sustainable option.

*Method 5.4.1, 5.6.1*

*Rules 23 – 26*

#### **4.4.7 To recognise that there is the potential for prevailing weather conditions, topography and other environmental conditions to influence the potential for adverse effects of the discharge of contaminants to air on the environment**

Explanation and principal reason: This policy recognises that the potential for discharges to result in adverse effects is influenced by the surrounding environmental conditions and this must be taken into account when assessing the required management of discharges.

Conditions such as high wind speeds, certain wind directions, humidity levels and topography may lead to increased likelihood for adverse effects to occur on the environment. These environmental factors must be considered when assessing the implications for discharging contaminants to air.

*Methods 5.2.3, 5.3.1, 5.6.1*

*Rules 2 - 14, 19, 21, 22, 23 – 26*

**4.4.8 To encourage the use of land use planning mechanisms and other land management techniques, including the separation of incompatible activities, to acknowledge issues of sensitivity or reverse sensitivity to mitigate adverse effects on the environment from the discharge of contaminants to air**

Explanation and principal reason: Land use planning mechanisms such as buffer zones around the discharge source may reduce the risk of adverse effects on surrounding sensitive landuses. Recognising existing uses when assessing the location of sensitive landuses near either point source or non-point source discharges is also an important consideration. This potential conflict can arise, for example, where residential activities choose to locate in close proximity to industrial or port activities or through the subdivision of production land for lifestyle properties.

Such considerations can be achieved through the District functions of the Council, and will be encouraged where appropriate.

*Methods 5.3.1, 5.4.2.1, 5.6.1*

*Rules 23 – 26*

**4.4.9 To require, where appropriate, the adoption of the best practicable option to avoid, remedy or mitigate adverse effects on the environment where there is insufficient information on the volume, concentration, rate and manner of the discharge and its actual or potential effects on the environment and ambient air quality**

Explanation and principal reason: Adoption of the 'best practicable option' as an approach to the management of discharges to air is considered particularly appropriate in situations where discharge control technology is still evolving, where standards establishing a level of protection for a receiving environment cannot easily be established or justified, where the maintenance or enhancement of the existing air quality is desirable or where there is uncertainty over existing environmental quality.

The best practicable option provides flexibility and allows progressive upgrading of plant processes and activities rather than setting a level of air quality and allowing degradation of existing air quality to that level. Adoption of the best practicable option may involve reducing or minimising emissions at source, adopting specified treatment and disposal technology or simply adopting good maintenance and operating procedures for existing activities, processes or waste treatment systems.

*Methods 5.2.6, 5.3.1, 5.3.2, 5.5.1, 5.6.1*

*Rules 1 – 7, 9, 10, 11, 18, 19, 21*

**4.4.10 When determining the appropriate height for discharge stacks, regard shall be given to Appendix 2 Calculations of Chimney Heights**

Explanation and principal reason: This policy establishes the use of well recognised techniques for calculating discharge parameters with regards to chimney height. This removes any uncertainty as to how chimney heights will be calculated.

*Methods 5.2.5, 5.5.1, 5.6.1*

*Rules 2, 3, 5*

**4.4.11 In addition to general policies 4.4.1 to 4.4.8, the following matters shall be given considered when assessing applications for resource consent:**

- a) The applicability of industry codes of practice;
- b) The need for control technologies and other good management practices such as training and the keeping of records to avoid, remedy or mitigate adverse effects from the discharge of contaminants;
- c) The effectiveness of establishing separation distances between the discharge source and sensitive areas a), d), f) & g) in policy 4.4.5;
- d) The nature, volume, composition and concentration of the contaminant;

- e) The frequency, rate and manner of the discharge;
- f) The design, construction and operation of the discharge source to ensure the most effective minimisation of the discharge of contaminants;
- g) The possibility of alternatives to discharging contaminants to air where practical;
- h) Contingencies; and
- i) The possibility of granting resource consents that cover multiple locations for mobile activities

Explanation and principal reason: This policy sets down a number of matters that consent authorities should consider and have regard to when assessing applications for resource consent. The assessment of the factors may often indicate the effects the discharge will have on the environment or the means by which adverse effects may be avoided, remedied or mitigated.

*Method 5.6.1*

*Rules All rules*

## **4.5 Policies for Specific Sources of Discharges**

### **4.5.1 To take into account that there is the potential for the discharge of contaminants from fuel burning equipment to cause adverse effects on the environment, in particular when:**

- a) Fuels other than oil, gas, coal and untreated wood are used;
- b) Design and operation of equipment results in impediments to the upward discharge of gases; and
- c) Efflux velocity levels of gases from chimneys are not maintained at appropriate levels

Explanation and principal reason: This policy emphasises that the use of fuel burning equipment in certain ways can result in adverse environmental effects. If inappropriate materials are used or the equipment is ineffectively designed and operated, there is greater potential for adverse effects on the environment to occur.

*Method 5.2.4, 5.2.5, 5.5.1, 5.6.1*

*Rules 1 – 5, 23, 25, 26*

### **4.5.2 To take into account that there is the potential for adverse effects on the environment to occur from the discharge of contaminants from abrasive blasting and, in particular, the health of surrounding residents, flora and fauna and surface water when:**

- a) The material used in abrasive blasting is hazardous, noxious, dangerous or toxic;
- b) Sand with a content of free silica above 5% is used; and
- c) Abrasive blasting is undertaken in such a manner, or occurs in weather conditions, where the potential for material to be transferred offsite increases

Explanation and principal reason: Abrasive blasting has the potential to cause significant adverse effects on the environment, particularly on human health and waterways, due to the discharge of fine particulates often contain hazardous materials. The discharge of contaminants from abrasive blasting requires careful management to avoid, remedy or mitigate these adverse effects.

This policy provides guidance on measures to manage the effects from abrasive blasting, in particular from dry blasting.

Some measures to minimise adverse effects and to reduce materials being transferred offsite include: avoiding dry blasting in high winds; containing residue dust emissions; undertaking blasting in an enclosed, purpose built environment; and giving full consideration to the alternatives to dry abrasive blasting in the open.

*Method 5.2.5, 5.3.1, 5.4.1, 5.6.1*

*Rule 11, 12, 24, 26*

**4.5.3 To avoid, remedy or mitigate the adverse effects on neighbouring properties from discharges to air resulting from the use of domestic heating appliances, backyard incinerators and open burning by:**

- a) Promoting the effective and efficient installation, use and maintenance of domestic heating appliances and backyard incinerators;
- b) Avoiding the combustion of materials other than dry vegetation, wood, paper, and cardboard; and
- c) Promoting alternatives to open burning and incineration of domestic waste

Explanation and principal reason: This policy recognises that domestic combustion sources, including domestic heating sources, backyard incinerators, and open burning, can create a significant nuisance on the surrounding environment and pose a health risk to humans as a result of the discharge of smoke and particulate, particularly onto nearby residences. The cumulative effects of combustion from domestic sources also have the potential to degrade ambient air quality.

By promoting alternative methods of heating and waste disposal and, when this is not possible, encouraging and educating about efficient and effective use of heating and incineration appliances, and preventing the combustion of certain materials, adverse effects can be reduced.

*Method 5.2.5, 5.3.1, 5.6.1*

*Rule 1, 2, 4, 6*

(It should be noted that users of domestic fireplaces are liable for prosecution if they use these devices in a manner that contravenes provisions of the Health Act).

**4.5.4 To ensure the discharge of contaminants from motor vehicles does not cause adverse effects on human health, amenity values, ecosystem integrity and localised and ambient air quality**

Explanation and principal reason: This policy recognises that discharges of contaminants from motor vehicles have the potential to cause significant adverse effects on localised and ambient air quality. The ability of the Council to directly control motor vehicle emissions is very limited.

Council will strongly support a national motor vehicle emissions strategy, and other measures undertaken at a national level that will assist in reducing the adverse effects from motor vehicle emissions.

It is appropriate that local problems of excessive concentrations of contaminants from motor vehicles be principally managed at a regional level. Transport planning and management and other measures will assist in reducing contaminant levels from motor vehicle emissions. Monitoring of carbon monoxide levels in the central business district has revealed that ambient guideline levels for this pollutant have been exceeded intermittently.

*Methods 5.4.2, 5.5.1, 5.6.1*

*Rule 22*

**4.5.5 To ensure road pavement burning is not undertaken in locations and conditions where it has the potential to cause adverse effects on the health of surrounding residents, amenity values or surface water**

Explanation and principal reason: This policy recognises that road pavement burning releases significant quantities of contaminants to air that can cause adverse effects on the surrounding environment. This activity should not be allowed in locations and conditions where nuisance or risk to the health of surrounding residents will occur.

*Methods 5.4.2, 5.6.1*

*Rule 25*

**4.5.6 Manage adverse effects from the spraying of agrichemicals, on the sensitive areas in policy 4.4.5 by ensuring that the occurrence of agrichemical spray drift beyond the target property or on other non-target sensitive areas or species within the property boundary is avoided or minimised where avoidance is not practicable. Regard to the following will be had when considering applications for resource consent to discharge agrichemicals to air:**

- a) The proximity of any of the sensitive areas listed in Policy 4.4.5;
- b) Prevailing weather conditions, including wind speed and direction, temperature and humidity;
- c) Timing of the spray;
- d) Characteristics of the agrichemical and carrying agent, including toxicity to humans, non-target flora and fauna and its propensity to volatilise;
- e) The method(s) of application, including type of spray equipment, spray volume and droplet size, direction of spraying and height of release of spray above ground;
- f) The nature and/or level of training of the operator(s);
- g) Measures to avoid spray drift (e.g. buffers, shelter belts);
- h) The desirability of using manufacturers' instructions and operating guidelines and codes of practice; and
- i) The applicability of alternative methods to using agrichemical sprays

Explanation and principal reason: Spray drift onto non-target areas as a result of the application of agrichemicals can result in adverse effects on those non-target areas particularly on the identified sensitive areas.

This policy sets out important considerations for the resource consent application process about how and where agrichemicals are used. These are key factors determining the risk and effects of agrichemical spray drift. Location of the spraying relative to neighbouring landuses, including sensitive areas, may determine the extent of the adverse effects of the discharge of the agrichemical.

Prevailing weather conditions, including wind direction, wind speed, temperature, relative humidity, rain, frost and inversion conditions, can determine the extent of spray drift. Spray can be moved away from the target area by any wind. Very low wind speeds usually mean wind direction is unpredictable. Inversion conditions develop when a band of warmer air develops at some height above the ground. Spraying under inversion conditions means that the final destination of the agrichemical cannot be predicted with any certainty. High air temperatures cause rapid evaporation of spray droplets. Heavy rainfall may leach agrichemicals causing environmental damage, including possible groundwater contamination.

The type of agrichemical proposed for use will determine environmental effects and the appropriate circumstances. The method of application and timing of the spray will also play a part in determining the drift hazard and the risk of adverse effects on the surrounding area. The level of training held by the applicator may determine the accuracy of application, appropriateness of concentrations used, handling etc. Landuse planning mechanisms such as buffers zones or shelter belts may reduce the risk of spray drift reaching sensitive areas. Alternatives to the use of agrichemicals should also be encouraged where this will lead to reduced adverse effects.

*Methods 5.2.5, 5.3.1, 5.3.2, 5.4.1, 5.4.2, 5.6.1*

*Rules 13, 14*

**4.5.7 To promote and encourage the safe and responsible use of agrichemicals that avoids or mitigates adverse effects of off-target spraydrift on the environment**

Explanation and principal reason: Safe and responsible use of agrichemicals will reduce the risk of spray drift. The Code of Practice for the Management of Agrichemicals, promoted through the New Zealand Agrichemical Education Trust, is one means of encouraging and promoting safe and responsible use. It has been endorsed as New Zealand Standard 8409:2004 under the Standards Act 1988, the standard providing the core training document for the GROWSAFE training programme. It includes guidelines on spray drift and drift hazard management and the handling, storage and application of agrichemicals.

*Methods 5.2.5, 5.3.1, 5.3.2, 5.4.1, 5.4.2, 5.6.1*

*Rules 13, 14*

**4.5.8 The discharge of greenhouse gases and ozone depleting substances should be undertaken in a manner consistent with national policies and guidelines**

Explanation and principal reason: It is recognised that the greenhouse effect and the depletion of the ozone layer are global issues and that initiatives undertaken in the Gisborne Region will have an insignificant effect on overall global objectives if considered in isolation. However, this does not remove the responsibility of the Gisborne Region to comply with, and assist in the achievement of, national and international targets and measures towards reducing emissions to air that contribute to issues of global significance.

*Method 5.5.1*