HAWKE'S BAY
REGIONAL COUNCIL

SAFEGUARDING YOUR ENVIRONMENT + KAITIAKI TUKU IHO

Regional Resource Management Plan

Change 2: Air Quality

Operative
1 January 2012
HBRC Plan No. 4085

159 Dalton Street + Private Bag 6006 + Napier
Telephone (06) 835 9200
Fax (06) 835 3601
Regional Freephone (06) 0800 108 838
SAFEGUARDING YOUR ENVIRONMENT + KAITIAKI TUKU IHO

Regional Resource Management Plan – Change 2: Air Quality

Operative date: 1 January 2012

Public Notification Date: 10 December 2008

Operative 1 January 2012
HBRC Plan No. 4085

5.3 Air Quality

OBJECTIVE

OBJ 39 A standard of ambient air quality is maintained at, or enhanced to, a level that is not detrimental to human health, amenity values or the life supporting capacity of air, and meets National Environmental Standards.

OBJ 39a A standard of local air quality is maintained that is not detrimental to human health, amenity values or the life supporting capacity of air.

OBJ 39b In the Napier, Hastings, Awatoto and Whirinaki Airsheds, improve ambient air quality so that by 1 September 2020 the concentration of PM_{10} does not exceed 50 $\mu g/m^3$ (24 hour average), more than once in any 12 month period[13a].

OBJ 39c In the balance of the region outside the Napier, Hastings, Awatoto and Whirinaki Airsheds, the ambient air quality shall be managed to ensure the concentration of PM_{10} does not exceed 50 $\mu g/m^3$ (24 hour average), more than once in any 12 month period.

Refer section 2.2 of this Plan

POLICY

POL 69 ENVIRONMENTAL GUIDELINES & STANDARDS – AIR QUALITY

5.3.1 To manage the effects of activities affecting air quality in accordance with the environmental guidelines and standards set out in Table 6 below.

Table 6. Environmental Guidelines & Standards – Air Quality

Issue	Guideline/Standard
1. Odour	There should be no offensive or objectionable odour beyond the boundary of the subject property[14].
2. Gases, airborne liquid & other noxious or dangerous contaminants	There should be no noxious or dangerous levels of gases or airborne liquid or other airborne contaminants beyond the boundary of the subject property, in concentrations and at locations that are likely to cause adverse effects on human health, ecosystems or property.
3. Smoke & water vapour	The discharge should not result in any smoke, water vapour or other contaminant that adversely affects traffic safety, or reduces horizontal visibility within 5m of ground level beyond the boundary of the subject property.
4. Dust	Any dust deposition should not raise the ambient dust deposition rate by more than 4 g/m^2 per 30 days at any point beyond the boundary of the subject property.
5. Particulate matter	There should be no objectionable deposition of particulate matter on any land or structure beyond the boundary of the subject property.

[13a] Objective 39b predates the 2011 amendments to the Resource Management (National Environmental Standards for Air Quality) Regulations 2004. The amended regulations changed the timeframe for compliance with the ambient PM_{10} standard specified in Objective 39b, to 1 September 2016 for the Napier Airshed and 1 September 2020 for the Hastings, Awatoto and Whirinaki Airsheds.

[14] "Subject property" means the legally defined property, whether private land or public land, within which the subject activity occurs and includes all land that is under common ownership.

Issue	Guideline/Standard
6. Ambient air quality	a. The ambient air quality must remain within the standards stated within the Resource Management (National Environmental Standards for Air Quality) Regulations 2004[15]. b. Where no national environmental standards exist the ambient air quality should remain within the New Zealand Ambient Air Quality Guidelines MfE 2002.[15a] c. Where the existing ambient air quality is better than the concentrations specified in the standards and guidelines in (a) and (b), there should be no significant degradation of ambient air quality.
7. Decision making - Offsets	The matters to be taken into account when assessing offsets in accordance with Policy 69a - 5.3.1A(iii), shall include, but not be limited to: a. The amount of offset required shall be estimated in kilograms of PM_{10} per day based on the likely worst case daily PM_{10} emissions from the new activity during the months May to August. If there is no discharge from the new activity during the months May to August then no offset is required. b. The measurement of the "offset" discharge must take place at the same time of day as the new discharge or occur at a time of the day when meteorological conditions are more conducive to elevated PM_{10}. The onus is on the applicant to demonstrate this. c. The "offset" discharge must be similar to the new discharge in terms of particle mode (fine or coarse) and composition except that it may differ if the applicant demonstrates that the "offset" discharge is more harmful. d. The "offset" discharge must not already be accounted for in air quality improvement programmes. In the Hastings and Napier Airsheds the following activities cannot be used for offsets: - removal of open fires - removal of solid fuel burners not complying with the requirements of Schedule XII[15b] - outdoor burning. e. The "offset" must be legally binding and must be effective from the first day of discharge from the new activity and for the duration of the consent for the new activity. f. The "offset" can be from a discharge within the same site. For example, an applicant may choose to install control technology such as a bagfilter on an existing discharge to "make room" for a new discharge. g. If the new discharge point is at a lower height than the "offset" discharge the applicant must demonstrate that the "offset" results in an equal or greater reduction in the maximum ground level concentrations of PM_{10} (24-hour average).

[15] Ministry for the Environment (2011) Resource Management (National Environmental Standards for Air Quality) Regulations 2004.

[15a] Ministry for the Environment (2002) Ambient Air Quality Guidelines.

[15b] An exception to this could occur if the "offset" were only required for a short duration which does not extend beyond the period for which the appliance group is prohibited as per Rule 18g.

	h. The applicant must demonstrate that the location of the "offset" discharge/s will have an equal or no greater impact on concentrations of PM_{10} under meteorological conditions most conducive to elevated concentrations. i. The National Environmental Standards for Air Quality must be considered in relation to all 'offsets" as in some situations the National Environmental Standards for Air Quality may restrict their use. Note: For clarification, the "offset" discharge is the one that is being removed and the "new" discharge is the one that is new. The offset discharge must be therefore equal or "worse than the new discharge so there is an environmental improvement.

POL 69a PARTICULATE MATTER - PM_{10} LEVELS

5.3.1A Concentrations of PM_{10} in the Hastings Airshed and Napier Airshed shall be reduced using the following strategies:

(i) control discharges to air from dwelling houses, and industrial or trade premises producing particulate matter

(ii) prevent outdoor burning practices contributing any significant PM_{10} during the time when Objective 39b and 39c might not be met

(iii) minimise an overall increase in PM_{10} emissions from other discharge sources, including large scale fuel burning equipment, unless:
1. the PM_{10} emissions are offset by reductions from other sources of similar emissions, beyond the reductions achieved through the implementation of this Policy; or
2. the PM_{10} emissions will not contribute to the ambient PM_{10} concentrations during the time when an ambient air quality concentration of PM_{10} is likely to exceed 50 $\mu g/m^3$ (24 hour average) in any airshed.

(iv) ensure a reduction in emissions from small scale solid fuel burners by the amount that is sufficient to achieve the National Environmental Standard for PM_{10}

(v) ensure that the concentration of PM_{10} emissions in the Napier Airshed and Hastings Airshed do not increase, and are reduced over time.

Explanation and Reasons

5.3.2 Prior to this Plan being prepared, the Hawke's Bay Regional Council had already established an approach for air management in its former Regional Air Plan. Objective 39 and 39a continue the direction set by the objectives of this former Plan. In particular, they recognise the need to focus on both ambient air quality and local air quality. Similarly, the environmental guidelines set out in Policy 69 follow the direction set in the former Regional Air Plan for regulating discharges of contaminants into air. This policy seeks to manage the range of effects that can be caused by discharges of contaminants into air, drawing on common conditions contained in rules in the former Regional Air Plan and in resource consents granted by the Hawke's Bay Regional Council.

5.3.3 Guidelines 1 to 5 largely address localised effects, recognising that these are the most common air quality problems. By comparison, Guideline/Standard 6 addresses ambient air quality. The Ministry for the Environment has produced Ambient Air Quality Guidelines for a range of key air contaminants, which detail the minimum requirements that outdoor air quality should meet in order to protect human health and the environment. Five of these guidelines have been implemented as mandatory standards in the form of National Environmental Standards, which are regulations under the Resource Management Act. The guideline and standard values are applied as a 'bottom line', and where existing air quality is better than the Ambient Air Quality Guidelines and Standards (which is the case for most areas in Hawke's Bay), the present air quality should be maintained. In other words, the existing air quality should not be allowed to degrade to the level of contamination specified in the New Zealand Ambient Air Quality Guidelines and National Environmental Standards for Air Quality (NESAQ).

5.3.3A PM_{10} ambient air quality in Hastings and Napier can be poor in winter and in 2008 did not meet the National Environmental Standards for PM_{10}, with the main contribution coming from domestic heating sources; air quality within the Whirinaki and Awatoto Airsheds is also poor. However, the main contributor within these relatively small and focussed airsheds is industry. Excessive concentrations of PM_{10} are associated with numerous health problems ranging from minor irritation of the eyes and nose to exacerbating existing respiratory problems among small children and the elderly in particular.

5.3.3B Objective 39b defines the ambient air quality PM_{10} concentration to be achieved in the Napier, Hastings, Awatoto and Whirinaki Airsheds. Objective 39c covers the rest of the region and ensures the existing ambient air quality PM_{10} concentration remains less than 50 $\mu g/m^3$ (24 hour average), with no more than one annual exceedance. Policy 69a

outlines strategies to reduce particulate matter concentrations in the Hastings and Napier Airsheds to a level which complies with the NESAQ for PM_{10}.

5.3.3C Objectives 39b, 39c and Policy 69a have been adopted in response to the National Environmental Standards for Air Quality set by the Ministry for the Environment in 2004. Objective 39b predates the 2011 amendments to the National Environmental Standards for Air Quality, which revised the timeframes for compliance with the ambient PM_{10} standard from 2013 to either 2016 or 2020, depending on the number of times the ambient PM_{10} standard was exceeded in an Airshed at 1 September 2011. The amended regulations require the National Environmental Standard for PM_{10} to be met in the Napier Airshed by 1 September 2016, and in the Hastings, Awatoto and Whirinaki Airsheds by 1 September 2020.

5.3.3D The Hawke's Bay Regional Council will monitor changes in PM_{10} concentrations in these airsheds. If monitoring indicates that Objective 39b will not be met, or that Objective 39c is at risk of being compromised, the Hawke's Bay Regional Council will initiate further measures, in addition to those outlined in the Plan. These measures may be regulatory, non-regulatory, or a combination of both.

POL 70 IMPLEMENTATION OF ENVIRONMENTAL GUIDELINES AND STANDARDS – AIR QUALITY

5.3.4 To implement Policies 69 and 69a predominantly in the following manner:

(a) **Regional rules –** The environmental guidelines and standards for air quality have been incorporated primarily in conditions, standards and terms in the rules set out in Chapter 6 of this Plan as appropriate. The environmental guidelines for air quality that refer to 'noxious', 'dangerous', 'offensive' or 'objectionable' effects will be interpreted in the manner described in section 6.1.4 of this Plan, and in accordance with any relevant case law.

(b) **Resource consents –** The environmental guidelines and standards for air quality will also be used in the process of making decisions on resource consents, in accordance with the Resource Management Act.

(c) **Enforcement** – Enforcement action will be used, where necessary, to aid in implementing the standards and terms of the rules set out in Chapter 6 of this Plan. Any enforcement action will be undertaken in accordance with the enforcement provisions of the Resource Management Act.

(d) **Resource Management Regulations** – National Environmental Standards apply across New Zealand. Some of these national standards prohibit or restrict certain types of activities affecting air quality. The Hawke's Bay Regional Council will enforce these standards in accordance with (c) above.

(e) **Non-regulatory methods –** Non-regulatory methods will also be used, where appropriate, to assist in achieving the objectives and implementing policies within Section 5.3 of this Plan including:

i liaising with territorial authorities to seek the inclusion of appropriate land use policies, rules and methods within district plans, and building codes, as necessary to meet the objectives and policies within Section 5.3 of this Plan.

ii the Hawke's Bay Regional Council will influence and inform the community through the development of an appropriate communications and marketing strategy. Information will be provided to assist the community (including industrial and horticultural operators) understand the types of effects that can occur as a result of discharges of contaminants into air and the overall effects of such discharges on ambient air quality. Information will be provided advising appropriate methods to avoid, remedy or mitigate any adverse effects of discharging contaminants into air.

iii the Hawke's Bay Regional Council will encourage the use of dry wood through education.

iv the Hawke's Bay Regional Council will develop a best practice guide for the sale of wood by accredited dry wood merchants.

v provision of financial incentives. The Hawke's Bay Regional Council may choose to provide incentives and financial assistance to assist the Council in achieving Objective 39b and thereby comply with the NESAQ for PM_{10}.

vi development of a best practice guide for outdoor burning to ensure that those undertaking the activity are aware of what steps need to be taken to minimise the effects from outdoor burning.

vii encouraging people currently using open fires and small scale solid fuel burners that are not NESAQ compliant burners to install cleaner forms of heating.

Explanation and Reasons

5.3.5 Policy 70 establishes that, unlike the environmental guidelines for land (which will largely be used in a non-regulatory manner), the environmental guidelines for air quality have been used to guide regulation as the principal means of meeting the air quality objectives. The Guidelines have been used in rules, and will be used in resource consent processes. Policy 70(a) cross-references Section 6.1.4 of this Plan, which provides some guidance on interpretation of the terms 'noxious', 'dangerous', 'offensive' or 'objectionable'. These terms are commonly used in the regulation of discharges of contaminants into air.

5.3.5A Regulatory and non regulatory methods will play a significant part in meeting Objective 39b. Policy 70 5.3.4(e)(i) will help integrate decision making under the Resource Management Act and Building Act and ensure that Regional Council and Territorial Authority requirements are considered at the same time; Policy 70 5.3.4(e)(ii),(iii),(iv) recognises that awareness about effects can lead to people adopting practices which can bring about changes in the quality of the air resource, and that information transfer can be an effective alternative to enforcement as a means of changing people's behaviour. In particular, Policy 70 5.3.4(e)(ii),(iii),(iv) can focus on educating people about the adverse effects associated with the discharges from domestic fuel burners, open fires and outdoor rubbish burning. Many of the problems associated with domestic heating are caused or exacerbated by ongoing use of open fires and small scale solid fuel burners that do not meet the NESAQ emission standards, incorrect use of appliances, and the use of poor quality fuels. While the use of NESAQ compliant burners will improve environmental outcomes and assist the Council in meeting Objective 39b, it is acknowledged that the use of heating appliances which reduce or minimise incorrect operation and can only use clean energy sources or dry fuels, will further improve air quality within Napier and Hastings. Similarly, problems associated with vegetation burning often relate to when and how burning is undertaken. Both these issues can be addressed through education of the public about their burning and heating practices. Policy 70 5.3.4(e)(v) states that the Hawke's Bay Regional Council may choose to provide financial packages to encourage the maximum uptake by households of NESAQ compliant burners and/or clean heating systems.

ANTICIPATED ENVIRONMENTAL RESULTS

Anticipated Environmental Result	Indicator	Data Source
No offensive or objectionable odour beyond the boundary of any subject property	Number, nature and type of resource consent, and reported incidents of odour	Compliance monitoring Incident monitoring
No noxious or dangerous gases or airborne liquid or other airborne contaminants beyond the boundary of any subject property	Number, nature, type and location of resource consent, and reported incidents of spray drift and other contaminants	Compliance monitoring Incident monitoring
Reduction in number of incidents where smoke, water vapour or other contaminants reduce visibility or affect traffic safety	Visibility monitoring	5 yearly monitoring for input into State of the Environment Report (SER) Incident monitoring
Reduction in occurrences of dust deposition which exceed guidelines beyond subject property boundary	Dust deposition should not exceed the guidelines value of 4 g/m^2 per 30 days	Annual SER update reporting Incident monitoring
Reduction in occurrences of objectionable deposition of particulate matter beyond subject property boundary	The accumulation of particulate matter	Annual SER update reporting Incident monitoring
Ambient Air Quality	NO_2, SO_2, CO	Four yearly monitoring
By 1 September 2020 the concentration of PM_{10} in any airshed is not exceeding 50 $\mu g/m^3$ (24 hour average), more than once in any year[15c]	PM_{10}	Compliance monitoring in accordance with Resource Management (National Environmental Standards for Air Quality) Regulations 2004

15c The Anticipated Environmental Results predate the 2011 amendments to the Resource Management (National Environmental Standards for Air Quality) Regulations 2004. The amended regulations changed the timeframe for compliance with the ambient PM_{10} standard to 1 September 2016 for the Napier Airshed and 1 September 2020 for the Hastings, Awatoto and Whirinaki Airsheds.

6.5 DISCHARGES TO AIR

For information requirements refer to section 7.4

6.5.1 COMBUSTION OF FUEL - DISCHARGES TO AIR

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
17 Combustion of specified fuels *Refer POL 69, 69a*	The discharge of any contaminant into air from any industrial or trade premises or any other source[1], excluding any moveable source[2] and any dwellinghouse, arising from the combustion of: • natural or liquefied petroleum gas; and/or • coal, diesel, kerosene, light fuel oil, heavy fuel oil, wood pellet fuel or untreated wood.	Permitted[3]	a. The maximum heat output shall not exceed: i. 5 MW for natural or liquefied petroleum gas, or ii. 100 kW for coal, light fuel oil, heavy fuel oil, or untreated wood, or iii. 200 kW for wood pellet fuel iv. 2 MW for diesel or kerosene (external combustion) v. 100 kW for diesel or kerosene (internal combustion) vi. Where more than one fuel type is used on the site the combined heat output shall not exceed the lowest MW threshold of the fuel types used. b. The fuel shall be burned using fuel burning equipment, and the discharge shall be from a chimney or exhaust structure designed so that the emission is effectively dispersed upwards. c. At any point beyond the boundary of the subject property or on public land: i. the discharge shall not result in any smoke that adversely affects traffic safety, or reduces visibility within 5 metres of ground level; ii. The discharge shall not result in any objectionable deposition of particulate matter on land or structure; iii. The discharge shall not result in any offensive or objectionable odour, or any noxious or dangerous levels of gases. d The fuel shall not comprise any of the waste materials specified in the activity description of Rule 20. e For external combustion sources the stack shall comply with the requirements of Schedule IX.[4]		

1 Includes the discharge of contaminants into air from any small scale solid fuel burner and open fire on industrial or trade, or commercial premises where the small scale solid fuel burner or open fire is used exclusively for the smoking or cooking of food for wholesale or retail sale.

2 Discharges of contaminants into air arising from the combustion of fuels in moveable sources (including motor vehicles and aircraft but excluding moveable asphalt plants and road burners which are regulated under Section 6.5.4), are not regulated by this Plan and therefore do not require resource consents.

3 NOTE: if Rule 17 cannot be complied with, then the activity is a restricted discretionary activity under Rule 30.

4 NOTE: Schedule IX sets out estimated emission rates of contaminants from the activities provided for by Rule 17.

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
18 Combustion of specified fuels *Refer POL 8, 69,69a*	Except as provided for by Rule 17, the discharge of any contaminant into air from any industrial or trade premises or any other source, excluding any moveable source and any dwellinghouse, arising from the combustion of: • natural or liquefied petroleum gas, and/or • diesel or wood pellet fuel.	Controlled[5]	a. The maximum heat output shall not exceed: i. 50 MW for natural or liquefied petroleum gas, or ii. 600 kW for wood pellet fuel in a modified pellet boiler iii. 1.2 MW for wood pellet fuel in a custom designed pellet boiler iv. 5 MW for diesel (external combustion). v. Where more than one fuel type is used on the site the combined heat output shall not exceed the lowest MW threshold of the fuel types used. b. The fuel shall not comprise any of the waste materials specified in the activity description of Rule 20. c. At any point beyond the boundary of the subject property, or on public land: i. The discharge shall not result in any objectionable deposition of particulate matter on any land or structure; ii. The discharge shall not result in any offensive or objectionable odour, or any noxious or dangerous levels of gases; iii. The discharge shall not result in any smoke that adversely affects traffic safety or reduces visibility within a height of 5 metres above ground level.	a. Methods used to disperse contaminants, including chimney height, chimney design and emission velocity and direction of exhaust gases. Chimney height will be determined generally in accordance with Schedule IX. b. Duration of consent. c. Lapsing of consent. d. Review of consent conditions. e. Compliance monitoring. f. Contaminant emission rate.[6] g. Any measures necessary to: ensure maintenance of fuel burning equipment, the carrying out of measurements, samples, analysis, surveys, investigations or inspections, including the monitoring of: contaminant concentrations and emission rates, the opacity of the discharge, quantity of fuel used, the cumulative effects of the discharge in combination with discharges from other sources, the provision of information to the consent authority at specified times. h. Administrative charges. i. Effects on flight paths and the roading network. j. New technologies available to minimise any discharges or their effects.	Applications will generally be considered without notification, without the need to obtain the written approval of affected persons.
18a	[NOTE: Rule 18A has been withdrawn. Withdrawal effective from 1 July 2011]				

5 NOTE: if Rule 18 cannot be complied with, then the activity is a restricted discretionary activity under Rule 30.
6 NOTE: Schedule IX sets out estimated emission rates of contaminants from the activities provided for by Rule 18.

6.5.1A SMALL SCALE SOLID FUEL BURNERS - DISCHARGES TO AIR

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
18b Discharge to air from open fires Napier & Hastings Airsheds *Refer POL 69, 69a*	Except as provided for by Rule 18f, the discharge of contaminants into air from a building located within the Hastings or Napier Airsheds resulting from the burning of any solid fuel in any open fire from 1 January 2012, unless: • the open fire was installed before 10 December 2008, and • is located on a property over 2 hectares in size or is located in Airzone 2 of the Hastings or Napier Airsheds.	Prohibited			
18c Discharge to air from any small scale solid fuel burner - Hastings Airshed *Refer POL 69, 69a*	The discharge of contaminants into air from a small scale solid fuel burner in a building located within the Hastings Airshed.	Permitted[7]	a. Any solid fuel burner located on a property less than 2 hectares in size in Airzone 1 of the Hastings Airshed must comply with the requirements in Part A Schedule XII, except where the solid fuel burner: • was installed before the operative date of this Rule, and • meets the requirements of Part B Schedule XII or Part C Schedule XII, or complies with the definition of 'wood fired cooker' in this Plan. b. Any solid fuel burner located in Airzone 2 of the Hastings Airshed or in Airzone 1 of the Hastings Airshed on a property over 2 hectares in size must comply with the requirements in Part B Schedule XII, except where the solid fuel burner was installed before the operative date of this Rule. c. At any point beyond the boundary of the subject property, or on public land: i. The discharge shall not result in any objectionable deposition of particulate matter on any land or structure; ii. The discharge shall not result in any offensive or objectionable odour; or any noxious or dangerous levels of gases. d. Contaminants discharged may only be derived from the combustion of fuel approved by the manufacturer for use in the solid fuel burner.		

7 NOTE: if Conditions (b), (c) or (d) of Rule 18c cannot be complied with, then the activity is a restricted discretionary activity under Rule 30. If Condition (a) of Rules 18c cannot be compiled with then the activity is prohibited under Rule 18g.

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
18d Discharge to air from any small scale solid fuel burner - Napier Airshed *Refer POL 69, 69a*	The discharge of contaminants into air from a small scale solid fuel burner in a building located within the Napier Airshed.	Permitted[8]	a. Any solid fuel burner located on a property less than 2 hectares in size in Airzone 1 of the Napier Airshed must comply with the requirements in Part B Schedule XII or Part C Schedule XII, except where the solid fuel burner was installed before the operative date of this rule and complies with the definition of 'wood fired cooker' in this plan. b. Any solid fuel burner located in Airzone 2 of the Napier Airshed or in Airzone 1 of the Napier Airshed on a property over 2 hectares in size must comply with the requirements in Part B Schedule XII, except where the solid fuel burner was installed before the operative date of this Rule. c. At any point beyond the boundary of the subject property, or on public land: i. The discharge shall not result in any objectionable deposition of particulate matter on any land or structure; ii. The discharge shall not result in any offensive or objectionable odour; or any noxious or dangerous levels of gases. d. Contaminants discharged may only be derived from the combustion of fuel approved by the manufacturer for use in the solid fuel burner.		
18e Number not used					
18f Discharge to air from any small scale solid fuel burner or open fire in a registered historic building Napier & Hastings Airsheds *Refer POL 69, 69a*	The discharge of contaminants into air from any existing small scale solid fuel burner or open fire that is located within a registered historic building located in the Napier or Hastings Airsheds.	Permitted	a. The small scale solid fuel burner or open fire must be located within a registered historic building.[9] b. Any wood burner installed after 1 September 2005, or any small scale solid fuel burner installed after 10 December 2008, in a building on a property with an allotment size of less than 2 hectares, must comply with the requirements in Schedule XII. c. At any point beyond the boundary of the subject property, or on public land: i. The discharge shall not result in any objectionable deposition of particulate matter on any land or structure; ii. The discharge shall not result in any offensive or objectionable odour; or any noxious or dangerous levels of gases.		

8 NOTE: if Conditions (b), (c) or (d) Rule 18d cannot be complied with, then the activity is a restricted discretionary activity under Rule 30. If Condition (a) of Rule 18d cannot be compiled with then the activity is prohibited under Rule 18g.

9 For the purposes of Rule 18f registered historic buildings are buildings that are individually registered on the Historic Places Register and/or in the District Plan.

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
18g Discharge to air from any small scale solid fuel burner Napier & Hastings Airsheds *Refer POL 69, 69a*	Except as provided for by Rules 18c, 18d and 18f the discharge of contaminants into air from any small scale solid fuel burner in a building located in Airzone 1 of the Napier or Hastings Airsheds is prohibited from the following dates: • small scale solid fuel burners installed prior to 31 December 1995 are prohibited from use after 1 January 2014; • small scale solid fuel burners installed between 1 January 1996 and 31 August 2005 are prohibited from use after 1 January 2016. • small scale solid fuel burners installed after 1 September 2005 that do not comply with the requirements in Schedule XII are prohibited from use after 1 January 2018 in Airzone 1 of the Hastings Airshed, and after 1 January 2020 in Airzone 1 of the Napier Airshed.	Prohibited			
18h Discharge to air from any small scale solid fuel burner or open fire at property ownership transfer [10] – Napier & Hastings Airsheds *Refer POL 69, 69a*	Except as provided for by Rules 18c, 18d and 18f, the discharge of contaminants into air from any existing small scale solid fuel burner or open fire, located within Airzone 1 of the Napier or Hastings Airsheds that: • is occurring at any time after the date from which there is a registered transfer of ownership of the property, following this rule becoming operative.	Prohibited[11]			

10 Rule 18h does not apply to a transfer in title in consequence of death of an owner when the title is transferred to the surviving partner, or where the surviving partner continues to occupy the dwelling.

11 NOTE: For the purposes of Rule 18h, the Hawke's Bay Regional Council may require evidence that the small scale solid fuel burner complies with the standards specified in Rules 18c and 18d. Approved models are listed on the website for the Ministry for the Environment (www.mfe.govt.nz).

6.5.2 BURNING OF WASTE - DISCHARGES TO AIR[12]

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
19 Burning of waste *Refer POL 69, 69a*	Except as provided for in Rule 20a, the discharge of contaminants into air arising from the burning of waste.[13]	Permitted[14]	a. The waste shall have been generated on the same property, or on another property under the same ownership, as that used for combustion, except for: i. Waste originating from ships, or road or rail reserves, or park reserves ii. Waste originating from river control works iii. Waste to be burned for fire training purposes. b. Except for burning undertaken in accordance with (c) below, any material burnt on, or originating from, industrial or trade premises shall be burned using fuel burning equipment, and the discharge shall be from a chimney or exhaust structure designed so that the emission is effectively dispersed upwards. c. The material to be burned shall not contain any animal waste (except animal waste generated on production land), tyres or other rubber, waste oil, any waste products containing hydrocarbons, wood treated with chemicals, painted wood, chip board, plastic, asbestos, medical waste, chemical waste, or any combination of metals and combustible materials or any of the other waste materials specified in the activity description of Rule 20, except where the burning is for the purpose of training fire fighting personnel. d. At any point beyond the boundary of the subject property, or on public land: i. The discharge shall not result in any smoke that adversely affects traffic safety, or reduces visibility within a height of 5 metres above ground level, or reduces visibility within recognised flight paths in the vicinity of airports; ii. The discharge shall not result in any objectionable deposition of particulate matter on any land or structure; iii The discharge shall not result in any offensive or objectionable odour; or any noxious or dangerous levels of gases. e. At any point within or beyond the subject property, the discharge shall not result in any objectionable deposition of particulate matter on National Electricity Transmission Network lines.		

12 NOTE: territorial authority bylaws – It is important to note that Rules in section 6.5.2 do not replace territorial local authority bylaws controlling burning. Persons burning any waste or other materials should ensure that they comply with any relevant bylaws, including prohibited or restricted fire seasons.

13 Where discharges of contaminants occur as a result of local authorities carrying out their functions by burning waste on public land the above conditions (a) to (e) apply.

14 NOTE: If Rule 19 cannot be complied with (and the activity is not prohibited by Rule 20), then the activity is a restricted discretionary activity under Rule 30.

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
19a Burning of vegetative matter, paper, cardboard and untreated wood *Refer POL 69, 69a*	Except as provided for by Rule 19e and Rule 20a, the discharge of contaminants into air arising from the burning in the open of vegetative matter, paper, cardboard and untreated wood.	Permitted[15]	a. Burning shall only consist of vegetative matter, paper, cardboard and untreated wood generated on the same property, or a property under the same ownership. b. If the property is located within the Hastings or Napier Airsheds the discharge shall not occur during the months of May, June, July or August.[16] c. At any point beyond the boundary of the subject property, or on public land: i. The discharge shall not result in any objectionable deposition of particulate matter on any land or structure; ii. The discharge shall not result in any offensive or objectionable odour; or any noxious or dangerous levels of gases. d. At any point within or beyond the subject property, the discharge shall not result in any objectionable deposition of particulate matter on National Electricity Transmission Network lines.		
19b Outdoor burning for specified purposes *Refer POL 69, 69a*	The discharge of contaminants into air from outdoor burning of materials for any of the following purposes: • fire fighting research or fire fighting training purposes • creating special smoke and fire effects for the purposes of producing films • fireworks display or other temporary event involving the use of fireworks.	Permitted	a. At any point beyond the boundary of the subject property, or on public land: i. The discharge shall not result in any objectionable deposition of particulate matter on any land or structure; ii. The discharge shall not result in any offensive or objectionable odour; or any noxious or dangerous levels of gases. b. At any point within or beyond the subject property, the discharge shall not result in any objectionable deposition of particulate matter on National Electricity Transmission Network lines. c. Any discharge for the purposes of research or training people to put out fires must take place under the control of the New Zealand Fire Service or other nationally recognised body authorised to undertake fire fighting research or fire fighting activities. d. Any discharge for the purposes of fire fighting research or training purposes, or for the creation of special smoke or fire effects for producing films: i. Must not occur during the months of May, June, July or August[17] If the property is located within the Hastings or Napier Airsheds; and ii. Must be notified to the Council at least 2 working days prior to the activity commencing.		

15 NOTE: For the avoidance of doubt, the burning of prunings, tree branches, roots, leaves, grass cuttings, seed pods, stalks, stubble (stems) and wood on horticultural or production land is covered by Rule 19a.
16 If condition b of Rule 19a cannot be complied with then the activity is non-complying under Rule 19c.
17 If condition d(i) of Rule 19b cannot be complied with then the activity is non-complying under Rule 19c.

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
19c Outdoor burning during certain times of the year *Refer POL 69, 69a*	Except as provided for in Rules 19, 19d, 19e, 20 and 20a the discharge of contaminants into air in the Hastings and Napier Airsheds from outdoor burning during the months of May, June, July or August.[18]	Non complying			
19d Discharge to air from frost protection heaters *Refer POL 69, 69a*	The discharge of contaminants into air from the burning of fuel in any frost protection heater.[19]	Permitted	a. The discharge shall only take place to prevent frost damage to horticultural production crops. b. The burning of oil[20] shall only take place in fuel burning equipment that operates with a stack or chimney. c. The fuel shall not comprise any of the specific fuels or waste specified in Rule 20.		
19e Outdoor burning on horticultural production land during certain times of the year Napier & Hastings Airsheds *Refer POL 69, 69a*	The discharge of contaminants into air from outdoor burning of vegetative matter on horticultural production land located within the Napier and Hastings Airsheds during the months of May, June, July or August.	Permitted	a. Burning shall only be undertaken to dispose of vegetative material that has been generated on the property[21] containing the horticultural production land. b. Burning shall only be undertaken to dispose of diseased vegetative material, or to dispose of remaining vegetative material from orchard/vineyard redevelopment[22] where there is no other reasonable or practicable onsite alternative disposal technique (e.g. mulching). c. The discharge shall not occur when the wind or forecast wind is likely to cause smoke to move towards the urban area (Airzone 1) of the Napier or Hastings Airsheds. d. The discharge shall not occur if the wind speed measured at 1 metre above the ground is less than 3 metres per second. e. The burn shall only take place between the months of May – August (inclusive)[23]. f. At any point beyond the boundary of the subject property or on public land:		

18 Rule 19c does not override Regulation 10 of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 which prohibits burning of oil in the open.

19 Rule 19d does not override Regulation 10 of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 which prohibits burning of oil in the open.

20 For the purposes of Rule 19d(b) oil is defined as: petroleum in any form other than gas, including crude oil, and refined oil products (e.g. diesel fuel, kerosene, motor gasoline), but excludes waste oil which is prohibited from being burnt in the open under Rule 20.

21 For the purposes of Rule 19e 'property' shall include any land under the same ownership or lease.

22 For the purposes of Rule 19e orchard/vineyard redevelopment means the replacement of commercial food production trees with other commercial food production trees, or where shelterbelts need to be removed for redevelopment purposes.

23 If the Activity is taking place outside of the months of May – August (inclusive) then it is permitted under Rule 19a subject to conditions, standards and terms being met.

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
			i. The discharge shall not result in any smoke that adversely affects traffic safety, or reduces visibility within 5 metres of ground level; ii The discharge shall not result in any objectionable deposition of particulate matter on land or structure; iii The discharge shall not result in any offensive or objectionable smoke or odour. g. The burn shall be supervised at all times. h. At any point within or beyond the subject property, the discharge shall not result in any objectionable deposition of particulate matter on National Electricity Transmission Network lines.		
20 Burning of specified waste in the open & in small scale fuel burning appliances Refer POL 69, 69a	Except as provided for in Rules 19 and 20a the discharge of contaminants into air arising from the burning in the open, and/or in a small scale fuel burner of: • any combination of metals and combustible materials, including coated or covered cables, or • animal waste (excluding animal waste generated on production land), tyres and other rubber, waste oil, wood treated with chemicals (except wood pellets which comply with the definition of 'wood pellets' in this Plan), oiled, painted or stained wood, chip board, asbestos, medical waste, pacemakers, biomechanical devices, or chemical waste, or • synthetic material, including but not limited to, motor vehicle parts, foams, fibreglass, batteries, surface coating materials, tar, or any type of plastic, or • peat.	Prohibited			

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
20a Burning of waste for purposes of disease control or quarantine control *Refer POL 69, 69a*	The discharge of contaminants into air arising from the burning of waste for the purposes of disease control or quarantine control[24] in accordance with Section 7A and Part VII of the Biosecurity Act 1993, or where the Hawke's Bay Regional Council has declared a Biosecurity risk.	Permitted	a. At any point beyond the boundary of the subject property, or on public land: i. The discharge shall not result in any objectionable deposition of particulate matter on any land or structure; ii. The discharge shall not result in any offensive or objectionable odour; or any noxious or dangerous levels of gases; iii. The discharge shall not result in any smoke that adversely affects traffic safety, or reduces visibility within a height of 5 metres above ground level, or reduces visibility within recognised flight paths in the vicinity of airports. b. At any point within or beyond the subject property, the discharge shall not result in any objectionable deposition of particulate matter on National Electricity Transmission Network lines.		

24 NOTE: disease control and quarantine control – The Ministry of Agriculture administers disease control and quarantine control requirements.

6.5.2 MANAGEMENT OF WASTE & OTHER MATTER, EXCLUDING INDUSTRIAL & TRADE PREMISES - DISCHARGES TO AIR

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
21 Waste & other matter, excluding industrial & trade premises *Refer POL 69, 69a*	The discharge of contaminants into air arising from the storage, use, transfer, treatment or disposal of waste and other matter[25], excluding: • discharges into air from any industrial or trade premises[26] • discharges into air addressed by other Rules in this Plan • discharges into air from moveable sources.	Permitted[27]	a. Any waste which is disposed of shall have been generated on the subject property or on another property under the same ownership as that used for disposal.[28] b. The discharge shall not result in any airborne liquid contaminant being carried beyond the boundary of the subject property. c. At any point beyond the boundary of the subject property, or on public land: i. The discharge shall not result in any visible discharge of any material, including dust; ii. The discharge shall not result in any offensive or objectionable odour; or any noxious or dangerous levels of gases. d. For any discharge into air arising from material sourced from industrial and trade premises, a management plan shall be prepared which sets out how conditions (b) to (d) will be met. A copy of this management plan shall be provided to the Hawke's Bay Regional Council upon request.		

25 NOTE: Combustion of waste – The discharge of contaminants into air arising from the burning of waste and other matter, is addressed under Rules 19 and 20.
26 NOTE: Industrial and trade premises – The discharge of contaminants into air from industrial or trade premises, arising from the management of waste and other matter, is addressed under Rules 28 and 29.
27 NOTE: If Rule 21 cannot be complied with, then the activity is a restricted discretionary activity under Rule 30.
28 NOTE: Rule 21, condition (a) only restricts the source of waste to be disposed of. The source of waste or other matter that is stored, used, transferred or treated is not restricted.

6.5.3 ABRASIVE BLASTING - DISCHARGES TO AIR[29]

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
22 Wet abrasive blasting *Refer POL 69, 69a*	The discharge of contaminants into air from abrasive blasting, using wet abrasive blasting techniques.	Permitted[30]	a. The operator shall so far as is practicable collect and remove all debris and used blasting materials on a daily basis, and when operations are completed.[31] b. At any point beyond the boundary of the subject property, or in relation to public land, the lesser of beyond the boundary of the public land or beyond 50 metres from the discharge: i. There shall be no discharge of water spray or dust; ii. The discharge shall not result in any noxious or dangerous levels of airborne contaminants.		
23 Dry abrasive blasting – fixed source *Refer POL 69, 69a*	The discharge of contaminants into air from dry abrasive blasting, other than from the use of a moveable source.	Permitted[32]	a. All items shall be blasted within an abrasive blasting enclosure.[33] b. There shall be no visible discharge of dust beyond the abrasive blasting enclosure. c. At any point beyond the boundary of the subject property, or any public land: i. There shall be no discharge of water spray or dust; ii. The discharge shall not result in any noxious or dangerous levels of airborne contaminants.		
24 Dry abrasive blasting – moveable source *Refer POL 69, 69a*	The discharge of contaminants into air from abrasive blasting, using both dry abrasive blasting techniques and a moveable source.	Discretionary[34]			

29 NOTE: Where discharges may enter water, then the activity must also meet the requirements of Rule 49; or the requirements of the Operative Regional Coastal Plan (HBRC, 1999) where the discharge enters coastal waters.

30 NOTE: If Rule 22 cannot be complied with, then the activity is a restricted discretionary activity under Rule 30.

31 NOTE: For the purpose of condition (a) of Rule 22, the surface to be blasted should not contain any significant levels of hazardous substances, including lead, zinc, arsenic, chromium, copper, mercury, asbestos, tributyl tin, thorium-based compounds, other heavy metals, and anti-fouling substances. The document "Guidelines for the Management of Lead-based Paint" (Occupational Safety and Health Service and Public Health Commission, 1995) provides comprehensive guidance for the removal of lead-based paints.

32 NOTE: If Rule 23 cannot be complied with, then the activity is a restricted discretionary activity under Rule 30.

33 NOTE: For the purpose of condition (a) of Rule 23, the surface to be blasted should not contain any significant levels of hazardous substances, including lead, zinc, arsenic, chromium, copper, mercury, asbestos, tributyl tin, thorium-based compounds, other heavy metals, and anti-fouling substances. The document "Guidelines for the Management of Lead-based Paint" (Occupational Safety and Health Service and Public Health Commission, 1995) provides comprehensive guidance for the removal of lead-based paints.

34 NOTE: Resource consents for multiple locations - Nothing in Rule 24 precludes persons from applying for a single permit to cover multiple locations in the Hawke's Bay region.

6.5.4 MOVEABLE SOURCES - DISCHARGES TO AIR

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
25 Moveable aggregate crushing & screening plants *Refer POL 69, 69a*	The discharge of contaminants into air from the operation of a moveable aggregate crushing and screening plant.	Permitted[35]	a. At any point beyond the boundary of the subject property, or in relation to public land, the lesser of beyond the boundary of the public land or beyond 50 metres from the discharge, there shall be no visible discharge of water spray or dust. b. At any point within or beyond the subject property, the discharge shall not result in any objectionable deposition of particulate matter on National Electricity Transmission Network lines.		
26 Moveable asphalt plants *Refer POL 69, 69a*	The discharge of contaminants into air arising from the operation of a moveable asphalt plant.	Discretionary[36]			
27 Moveable road burners *Refer POL 69*	The discharge of contaminants into air arising from the operation of moveable equipment used to treat road surfaces with heat.[37]	Non-complying[38]			

35 NOTE: If Rule 25 cannot be complied with, then the activity is a restricted discretionary activity under Rule 30.
36 NOTE: Resource consents for multiple locations - Nothing in Rule 26 precludes persons from applying for a single permit to cover multiple locations in the Hawke's Bay region.
37 Rule 27 does not override Regulation 8 of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 which prohibits burning of bitumen on a road.
38 NOTE: Resource consents for multiple locations - Nothing in Rule 27 precludes persons from applying for a single permit to cover multiple locations in the Hawke's Bay region.

6.5.5 INDUSTRIAL & TRADE PREMISES - DISCHARGES TO AIR

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/ Discretion	Non-notification
28 Miscellan-eous industrial & trade premises *Refer POL 8, 13, 14, 69, 69a*	The discharge of contaminants into air from any industrial or trade premises arising from any of the following activities, that is not specifically regulated by any other rule within this Plan: • waste disposal • composting, where more than 100m^3 (in total) of raw material, composting material and compost is held per premises at any one time • combustion of natural or liquefied petroleum gas with a maximum heat output that exceeds 50 MW • combustion of coal, light fuel oil, heavy fuel oil or untreated wood with a maximum heat output that exceeds 100 kW • the manufacture of cement, fertiliser, milk powder, other dried milk derived products, or rubber goods • the manufacture of fibre board, pulp or paper • the mechanical drying of treated timber • rendering, tanning, fellmongering, skin or hide processing, or pet food processing • fumigation processes, except for biosecurity purposes • the manufacture of organic or inorganic chemicals, including pharmaceuticals • crematoria • asphalt plants • hot dip galvanising • manufacture or disposal of radioactive substances • manufacture of soaps or detergents • use of di-isocyanates or organic plasticisers • manufacture of aluminium, steel, fibreglass, glass or frit • sintering, calcining, or roasting of metal ores • smelting of any metal or metal alloy, including scrap metal • carbonisation, gasification, refining, purification, or reforming of natural gas, petroleum oil, shale, coal, wood, or other carbonaceous materials • smelting or burning of calcium or calcium-magnesium carbonates to produce calcium or magnesium oxides or hydroxides • combustion of diesel with a maximum heat output that exceeds 5 MW (external combustion) • Combustion of diesel and kerosene with a maximum heat output that exceeds 100 kW (internal combustion) • Combustion of kerosene with a maximum heat output that exceeds 2 MW (external combustion)	Discretionary			

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/ Discretion	Non-notification
	• Combustion of wood pellets with a maximum heat output that exceeds 600 kW (modified pellet boilers) • Combustion of wood pellets with a maximum heat output that exceeds 1.2 MW (custom pellet boilers) • materials being burned in fuel burning equipment comprising any of the waste materials specified in the activity description of Rule 20.				
29 Minor discharges from industrial & trade premises *Refer POL 69, 69a*	The discharge of contaminants into air from any industrial or trade premises that is not specifically regulated by any other rule within this Plan, including: • discharges of heat to air • discharges of energy to air, including release of energy from sources of electromagnetic radiation, including radio transmitter, television, or cell phones; or release of X-rays from a radioactive source • discharges for the purposes of ventilation or vapour displacements • discharges arising from the use of fumigants for biosecurity purposes • discharges of dust arising from the loading, unloading, and conveyance of goods and materials (including aggregates).	Permitted[39]	a. The opacity of any discharge of smoke when measured at the point of discharge shall not exceed 20%, except that a discharge in excess of this shall be permitted for a period of not more than two minutes continuously or for an aggregate of four minutes in any 60 minute period. b. The discharge shall not result in any airborne liquid contaminant excluding water vapour being carried beyond the boundary of the subject property. c. The discharge shall be located and designed to avoid cross contamination of air intake used for ventilation purposes. d. At any point beyond the boundary of the subject property, or on public land; i. The discharge shall not result in any noxious or dangerous levels of airborne contaminants; ii. There shall be no visible discharge of any contaminant, other than smoke from fuel burning equipment or water vapour; iii. Any discharge of water vapour shall not result in any plume which adversely affects traffic safety, or reduces visibility within a height of 5 metres above ground level, or reduces visibility within recognised flight paths in the vicinity of airports; iv. The discharge shall not result in any offensive or objectionable odour; v. The dust deposition rate resulting from the discharge shall not raise the ambient dust deposition rate by more than 4g /m^2 per 30 days; vi. The discharge shall not result in any objectionable deposition of particulate matter on any land or structure. e. At any point within or beyond the subject property, the discharge shall not result in any objectionable deposition of particulate matter on National Electricity Transmission Network lines.		

39 NOTE: If Rule 29 cannot be complied with, then the activity is a restricted discretionary activity under Rule 30.

6.5.6 NON-COMPLIANCE WITH/NOT REGULATED BY OTHER RULES - DISCHARGES TO AIR

Rule	Activity	Classification	Conditions/Standards/Terms	Matters for Control/Discretion	Non-notification
30 Discharges of contaminants to air not regulated by[40], or that cannot comply with, Rules 11-19e, 20a -29 *Refer POL 8, 12, 13, 14, 16, 17, 19, 20, 69, 69a, 71, 75*	The discharge of contaminants into the air that: • is from an industrial and trade premises and is not specifically classified by any other rule in this Plan as a discretionary, non-complying or prohibited activity, or • does not comply with all relevant conditions on a permitted activity rule, or • does not comply with all relevant standards and terms on a controlled activity rule or restricted discretionary activity rule.	Restricted discretionary		a. The conditions, standards or terms which the activity cannot comply with, and related environmental effects. b. For activities that would otherwise be permitted or controlled activities (if they complied with all standards and terms of the relevant rule), the conditions/standards/terms or "matters for control" set out in the relevant rule. c. Duration of consent. d. Lapsing of consent. e. Review of consent conditions. f. Compliance monitoring. g. Contaminant emission limits. h. Any measures necessary to: ensure maintenance of fuel burning equipment, the carrying out of measurements, samples, analysis, surveys, investigations or inspections including the monitoring of: contaminant concentrations and emission rates, the opacity of the discharge, quantity of fuel used, the cumulative effects of the discharge in combination with discharges from other sources, and the provision of information to the consent authority at specified times. i. Administrative charges. j. Effects on flight paths and the roading network. k. New technologies available to minimise any discharges or their effects. l. Methods used to disperse contaminants, including chimney height, chimney design and emission velocity. Chimney height will be determined generally in accordance with Schedule IX.	Applications will generally be considered without notification, without the need to obtain the written approval of affected persons.

40 All other discharges to air (e.g. from residential properties) which are not specifically regulated by rules in this Plan are regulated by Section 15 of the RMA. NOTE: The Resource Management (National Environmental Standards for Air Quality) Regulations 2004 regulate the installation of woodburners on properties less than 2 hectares in size.

Schedule IX – Chimney Design Guide and Combustion of Fuels

PART A - CHIMNEY HEIGHT REQUIREMENTS

IXA-1 CHIMNEY HEIGHT REQUIREMENTS – FOR DISCHARGE FROM THE EXTERNAL COMBUSTION OF NATURAL OR LIQUEFIED PETROLEUM GAS [1]

METHODOLOGY

1.1 In terrain where the land does not rise to more than half, and buildings do not rise to more than 0.4 times, the indicative height of the chimney within a ground distance of five times the indicative height, and where there are no other significant sources or air-borne contaminants, the height of any chimney discharging the products of combustion from fuel burning equipment will be determined generally in accordance with the following guidelines:

(a) **For any discharge from the combustion of natural gas or liquefied gas where the release of nitrogen oxides is less than 0.5 kg/h or the rate of heat release is less than 2 MW**: The minimum chimney height should be the higher of either 8 metres above finished ground level or 3 metres above the highest substantial part of any building located within 40 metres of the chimney, or any part of the building to which the chimney may be attached.

(b) **For any discharge from the combustion of natural gas or liquefied gas where the release of nitrogen oxides is equal to or exceeds 0.5 kg/h but is less than 20 kg/h and the rate of heat release is less than 50 MW:** The height of the chimney should be calculated in accordance with Table i (with the minimum height being whichever is the greater height of those corresponding to the heat input (MW) and the nitrogen oxides discharge (kg/h)), or be 3.3 metres above the highest substantial part of any building located within 40 metres of the chimney, or any part of the building to which the chimney may be attached, whichever is the higher.

[1] These criteria only apply to permitted and controlled activities. This includes large scale fuel burning appliances with combined heat outputs of less than 50 MW for natural gas and liquefied petroleum gas. Discretionary activities require a site specific evaluation which takes into account the impact of the chimney height on ground level concentrations of contaminants as a part of the resource consent application.

Table i. Natural gas or liquefied gas used as a fuel

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

1.2 In the following circumstances, the height of the chimney should generally be determined so that the discharge will not give rise to sulphur dioxide and nitrogen oxides levels in excess of an indicator level based on 40% of the 'New Zealand Ambient Air Quality Guidelines' (Ministry for the Environment, 2002), using the 99.9% modelled percentile:

(a) In terrain where the land rises to more than half, or buildings rise to more than 0.4 times, the indicative height of the chimney, within a ground distance of five times the indicative height.

IXA-2 CHIMNEY HEIGHT REQUIREMENTS – FOR DISCHARGE FROM THE EXTERNAL COMBUSTION OF KEROSENE, DIESEL, COAL, HEAVY FUEL OIL, LIGHT FUEL OIL, UNTREATED WOOD OR PELLET FUEL[2].

1.3 In relation to any large scale fuel burning appliance burning diesel, kerosene, coal, heavy fuel oil, light fuel oil, untreated wood, or pellet fuel, discharges into air from external combustion after the notification date of Plan Change 2[3], must be via an emission stack where:

(a) the discharge point is at least 12.5 metres above ground level, or

(b) the discharge point is 2.5 metres higher than the apex of any building, tree, slope or other structure within a horizontal radius of 2.5 times the stack height (whichever discharge point a) or b) is the higher), and

(c) the exhaust gases are directed vertically into air and are not impeded by any obstruction that would lower the velocity of the exhaust gases.

Explanatory Note

1.4 To ensure that the plume released from the stack is not affected by building downwash effects, therefore creating high ground level concentrations, the stack must be at least 2.5 metres higher than the tallest building or obstacle within the vicinity of the stack (meaning within a circle drawn around the stack with a radius 2.5 times the height of the stack). For example, in a building that has a stack 10 metres high relative to ground level, there would be a 25 metre radius drawn around the stack for potential downwash effects. The discharge point would have to be 2.5 metres higher than any obstacle within this circle in order to achieve good dispersion of emissions from the stack.

IXA-3 EXPLANATION

1.5 The combustion of any fuel will generate airborne contaminants. The most accepted method of managing discharges of these contaminants is by remaining within desired maximum ground level concentrations. The 'New Zealand Ambient Air Quality' Guidelines (Ministry for the Environment, 2002) set out the desired maximum ground level concentrations for pollutants, and the National Environmental Standards for Air Quality [Resource Management (National Environmental Standards for Air Quality) Regulations 2004 set out ambient air quality standards that maximum ground level concentrations must remain within. To give effect to these standards and guidelines, it is necessary to have a chimney of sufficient height to disperse contaminants effectively by diluting the combustion gases to a level where the adverse effects are no more than minor.

1.6 In flat terrain and in the absence of high buildings, simple formulae (e.g. Table i) can be used to calculate the height of the chimney required for various fuels. If these guidelines cannot be met the Council will have the ability to apply more general guidelines when determining adequate heights for chimneys, or if considered necessary require modelling to be carried out.

[2] These criteria only apply to permitted and controlled activities. This includes large scale fuel burning appliances with combined heat outputs of less than 100 kW for coal, heavy fuel oil, light fuel oil and untreated wood, less than 5MW for diesel, less than 2 MW for kerosene, and less than 600 kW for wood pellet fuel being burned in modified pellet boilers, and less than 1.2 MW for wood pellet fuel being burned in custom designed boilers. Discretionary activities require a site specific evaluation which takes into account the impact of the chimney height on ground level concentrations of contaminants as a part of the resource consent application.

[3] 10 December 2008.

PART B – EMISSIONS FROM COMBUSTION

IXB-1 INTRODUCTION

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

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

IXB-2 FUEL USE

1.9 A first step in estimating emissions is to estimate the fuel used in the various processes (shown in Table ii). Assuming continuous operation of a process for one year, the fuel used can be calculated as follows:

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

where:

- Fuel calorific value is the energy released per unit fuel:
  - Natural Gas 36 MJ/m^3
  - LPG 46 MJ/kg
  - Oil 41 MJ/kg
  - Coal 25 MJ/kg
  - Wood 10 MJ/kg
- 3.1536×10^7 s/y is the factor needed to scale the process to one year.

Table ii. Typical fuel use for combustion processes

Process	Size	Fuel use per Year	Rate per MW
Natural gas	5 MW 50 MW	4,400,000 m^3 44,000,000 m^3	880,000 m^3
LPG	5 MW 50 MW	3,400 tonnes 34,000 tonnes	680 tonnes
Oil	40 kW 10 MW	31 tonnes 7,700 tonnes	770 tonnes
Coal	40 kW 10 MW	50 tonnes 12,600 tonnes	1,300 tonnes
Wood	40 kW 10 MW	130 tonnes 31,500 tonnes	3,200 tonnes

IXB-2 KEY CONTAMINANTS

1.10 The key contaminants from combustion processes are as follows:

PM_{10} The fraction of particulate matter in the air of size less than 10 micrometres.
24 hour standard: 50 μg/m^3.
Annual guideline : 20 μg/m^3.

CO Carbon monoxide.
8 hour standard: 10 mg/m^3.
1 hour guideline: 30 mg/m^3.

NO_x Oxides of nitrogen, mainly NO, NO_2 and small amounts of NO_3.
Standards and Guidelines for NO_2 only:
24 hour standard: 100 μg/m^3.
1 hour guideline: 200 μg/m^3.

SO_x Oxides of sulphur, mostly SO_2.
Standards and Guidelines for SO_2 only:
24 hour guideline: 120 μg/m^3.
1 hour standard: 350 μg/m^3.
1 hour standard 570 μg/m^3 (no exceedences)

O_3 Ozone
1 hour standard: 150 μg/m^3.
8 hour guideline: 100 μg/m^3.

VOC Volatile organic compounds, usually light hydrocarbons, sometimes with small amounts of hazardous contaminants. Guideline levels for these are currently under review.

IXB-3 CALCULATION DETAILS & EMISSION RATES

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

Annual emissions = Annual fuel consumption x Standard emission factor

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

- Sulphur content of coal = 1.0% by weight (range 0.4 to 2.0).
- Ash content of coal = 4.0% by weight (range 3.0 to 5.0).
- Density of LPG = 0.5 kg/l.
- Density of fuel oil = 0.845 kg/l.

1.13 The ranges given are subjective estimates. At the extremes, it may be possible to find either very poorly operated equipment, or conversely highly efficient equipment that may lie outside these limits.

Table iii. Typical Emission Rates for Combustion Processes

PROCESS	SIZE	EMISSION RATE BY CONTAMINANT				
		PM_{10} (kg/y)	CO (kg/y)	NO_x (kg/y)	SO_x (kg/y)	VOC (kg/y)
Gas/LPG	5MW worst	870	4,300	10,000	42	790
	5MW typical	370	2,400	5,700	33	440
	5MW best	210	1,400	2,500	24	180
	50MW worst	6,700	81,000	390,000	420	29,000
	50MW typical	2,100	28,000	200,000	330	4,000
	50MW best	700	25,000	37,000	240	1,300
Oil	40kW worst	22	22	260	120	12
	40kW typical	9	20	86	120	6
	40kW best	2	19	22	9	1
	10MW worst	5,400	5,500	65,000	31,000	3,100
	10MW typical	2,200	4,900	21,000	31,000	1,400
	10MW best	540	4,700	5,400	2,300	310
Coal	40kW worst	350	280	930	2,000	53
	40kW typical	250	120	410	880	3
	40kW best	25	15	170	400	3
	10MW worst	88,000	110,000	270,000	490,000	13,000
	10MW typical	63,000	32,000	110,000	220,000	760
	10MW best	6,300	3,200	81,000	81,000	630
Wood	40kW worst	440	1,400	180	13	110
	40kW typical	160	250	42	5	19
	40kW best	10	38	42	1	11
	10MW worst	110,000	760,000	57,000	3,200	27,000
	10MW typical	41,000	410,000	36,000	1,200	4,700
	10MW best	2,500	63,000	950	160	2,800

IXB-4 BIBLIOGRAPHY

Buonicore, AJ; Davis, WT (*eds*) 1992: *Air Pollution Engineering Manual.* Air & Waste Management Association. Van Nostrand Reinhold.

Economopoulos, AP (ed) 1993: *Assessment of Sources of Air, Water and Land Pollution. A Guide to Rapid Source Inventory Techniques and their Use in Formulating Environmental Control Strategies.* World Health Organisation, Geneva.

Intergovernmental Panel on Climate Change 1995: *IPCC Guidelines for National Greenhouse Gas Inventories. Vol 3 - Greenhouse Gas Reference Manual.* United Kingdom.

United States Environmental Protection Agency 1992: *Compilation of Air Pollution Emission Factors (AP-42)*. United States Government. Code of Federal Regulations 40.

Ministry for the Environment (2005) Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004 (NESAQ).

Ministry for the Environment, Ministry of Heath (2002) Ambient Air Quality Guidelines 2002 update.

Schedule X – Air Quality Guidelines 2002

(and comparison with guideline values 1994)

CONTAMINANT	1994 GUIDELINE VALUES		2002 GUIDELINE VALUES	
	Value	Averaging time	Value	Averaging time
Carbon Monoxide	30 mg/m^3 10 mg/m^3	1 hour 8 hour	30 mg/m^3 10 mg/m^3	1 hour 8 hour
Particles: **PM_{10}**	120 µg/m^3 40 µg/m^3	24 hour Annual	50 µg/m^3 20 µg/m^3	24 hour Annual
Nitrogen dioxide	300 µg/m^3 100 µg/m^3	1 hour 24 hour	200 µg/m^3 100 µg/m^3	1 hour 24 hour
Sulphur dioxide [1]	500 µg/m^3 350 µg/m^3 125 µg/m^3 50 µg/m^3	10 min 1 hour 24 hour Annual	Withdrawn 350 µg/m^3 120 µg/m^3 Withdrawn	 1 hour 24 hour
Ozone	150 µg/m^3 100 µg/m^3	1 hour 8 hour	150 µg/m^3 100 µg/m^3	1 hour 8 hour
Hydrogen sulphide	7 µg/m^3	30 min	7 µg/m^3	1 hour
Lead [2]	0.5 -1.0 µg/m^3	3 month	0.2 µg/m^3 (lead content of PM10)	3-month moving average (calculated monthly)

Notes

1. The sulphur dioxide guideline values do not apply to sulphur acid mist.
2. The guideline values for metals are for inhalation exposure only; they do not include exposure from other routes. These other routes should be considered in assessments.

Ambient Air Quality Standards 2004 – Resource Management (National Environmental Standards for Air Quality) Regulations 2004

Contaminant	Standard	Time Average	Allowable exceedences per year
Carbon monoxide (CO)	10 mg/m^3	8 hours	1
Nitrogen dioxide (NO_2)	200 µg/m^3	1 hour	9
Ozone (O_3)	150 µg/m^3	1 hour	0
Particles (PM_{10})	50 µg/m^3	24 hours	1
Sulphur dioxide (SO_2)	350 µg/m^3	1 hour	9
	570 µg/m^3	1 hour	0

Schedule XII – Emission Requirements: Small scale solid fuel burners

PART A SMALL SCALE SOLID FUEL BURNERS - AIRZONE 1 - HASTINGS AIRSHED

A-1 SOLID FUEL BURNER REQUIREMENTS (FREE STANDING BURNERS, NEW BURNERS[1] (WITH OR WITHOUT A WETBACK) & INSERT BURNERS (WITHOUT A WETBACK)

A-1.1 a small scale solid fuel burner must:

a) emit no more than 1.0 gram of total suspended particulate matter per kilogram of fuel burned, calculated by averaging the total suspended particulate emissions for high, medium and low burn rates, when tested in accordance with AS/NZS4012:1999 and AS/NZS4013:1999, or AS/NZS4014.6.2007, AS/NZS4886.2007 and AS/NZS5078:2007 when testing pellet burners, or the functional equivalent for other non batch-fed appliances. Where the nominated test fuel is wood then the test shall be carried out using softwood in accordance with the requirements of AS/NZS 4014.2:1999

b) have a thermal efficiency, for space heating only, as described in AS/NZS4013:1999, of 65% or greater

c) comply with the definition of 'NESAQ compliant burner' in this Plan

d) not be modified in any way so as to alter the specifications of the burner from those tested and stated by the manufacturer

e) be maintained in good operational order and operated in accordance with the manufacturer's instructions and

f) be capable of being operated on a high, medium and low burn rate.

A-2 SOLID FUEL BURNER REQUIREMENTS (INSERT BURNERS WITH A WETBACK)

A-2.1 a small scale solid fuel burner must:

a) emit no more than 1.5 grams of total suspended particulate matter per kilogram of fuel burned, calculated by averaging the total suspended particulate emissions for high, medium and low burn rates, when tested in accordance with AS/NZS4012:1999 and AS/NZS4013:1999, or AS/NZS4014.6.2007, AS/NZS4886.2007 and AS/NZS5078:2007 when testing pellet burners, or the functional equivalent for other non batch-fed appliances. Where the nominated test fuel is wood then the test shall be carried out using softwood in accordance with the requirements of AS/NZS 4014.2:1999

b) have a thermal efficiency, for space heating only, as described in AS/NZS4013:1999, of 65% or greater

c) comply with the definition of 'NESAQ compliant burner' in this Plan

d) not be modified in any way so as to alter the specifications of the burner from those tested and stated by the manufacturer

e) be maintained in good operational order and operated in accordance with the manufacturer's instructions

f) be capable of being operated on a high, medium and low burn rate, and

g) be connected to the hot water supply system within a residential dwelling.

PART B SMALLSCALE SOLID FUEL BURNERS - AIRZONES 1 & 2 - NAPIER AIRSHED AND AIRZONE 2 - HASTINGS AIRSHED

B-1 SOLID FUEL BURNER REQUIREMENTS

B-1.1 a small scale solid-fuel burner must:

a) emit no more than 1.5 grams of total suspended particulate matter per kilogram of fuel burned, calculated by averaging the total suspended particulate emissions for high, medium and low burn rates, when tested in accordance with AS/NZS4012:1999 and AS/NZS4013:1999, or AS/NZS4014.6.2007, AS/NZS4886.2007 and AS/NZS5078:2007 when testing pellet burners, or the functional equivalent for other non batch-fed appliances. Where the nominated test fuel is wood then the test shall be carried out using softwood in accordance with the requirements of AS/NZS 4014.2:1999

b) have a thermal efficiency, for space heating only, as described in AS/NZS4013:1999 of 65% or greater

c) comply with the definition of 'NESAQ compliant burner' in this Plan

d) not be modified in any way so as to alter the specifications of the burner from those tested and stated by the manufacturer

e) be maintained in good operational order and operated in accordance with the manufacturer's instructions and

f) be capable of being operated on a high, medium and low burn rate.

[1] A new burner is classed as a burner not replacing an existing burner located within the same building.

PART C SMALL SCALE SOLID FUEL BURNERS - NAPIER AIRSHED AND HASTINGS AIRSHED

C-1 MODIFIED SOLID FUEL BURNER & INFORMATION REQUIREMENTS

C-1.1 the modified small scale solid-fuel burner must:

a) emit no more than 1.5 grams of total suspended particulate matter per kilogram of fuel burned, calculated by averaging the total suspended particulate emissions for high, medium and low burn rates, when tested in accordance with AS/NZS4012:1999 and AS/NZS4013:1999, or AS/NZS4014.6.2007, AS/NZS4886.2007 and AS/NZS5078:2007 when testing pellet burners, or the functional equivalent for other non batch-fed appliances. Where the nominated test fuel is wood then the test shall be carried out using softwood in accordance with the requirements of AS/NZS 4014.2:1999

b) have a thermal efficiency, for space heating only, as described in AS/NZS4013:1999 of 65% or greater

c) comply with the definition of 'modified NESAQ compliant burner' in this Plan

d) be maintained in good operational order and operated in accordance with the manufacturer's instructions and

e) be capable of being operated on a high, medium and low burn rate.

C-1.2 all modifications shall be undertaken by an independent suitably qualified person[2] approved by the burner manufacturer and notified to the Hawke's Bay Regional Council.

C-1.3 the following information shall be provided to the Hawke's Bay Regional Council prior to the modification taking place:

a) name, address and phone number of property owner

b) description of the type of device, year of manufacture and installation, and tested particulate emission rates for that device at the time of installation (if available)

c) a description of the modifications that need to take place to make the existing burner NESAQ compliant

d) confirmation by the burner manufacturer or their agent that the existing burner is in good working order, and complies with the technical specifications of the particular NESAQ compliant burner model, or provision of a list of remedial work necessary to make it NESAQ compliant, and/or to restore the burner to good working order

e) technical specifications of the old appliance and the equivalent NESAQ authorised appliance, and confirmation by the burner manufacturer that the technical specifications and overall dimensions of both burners, after modification are the same

f) a list of measures that can be undertaken to ensure the existing burner cannot be easily tampered with after the modification has occurred.

C-1.4 the following information must be provided to the Hawke's Bay Regional Council after the modification has occurred:

a) confirmation by the burner manufacturer that the technical specifications of the existing burner and the equivalent NESAQ compliant burner, after modification are the same

b) confirmation by the burner manufacturer that the list of remedial work identified in condition C-1.3(d) above (if any), has been undertaken

c) name and phone number of the approved 'independent suitably qualified person' who carried out the modification

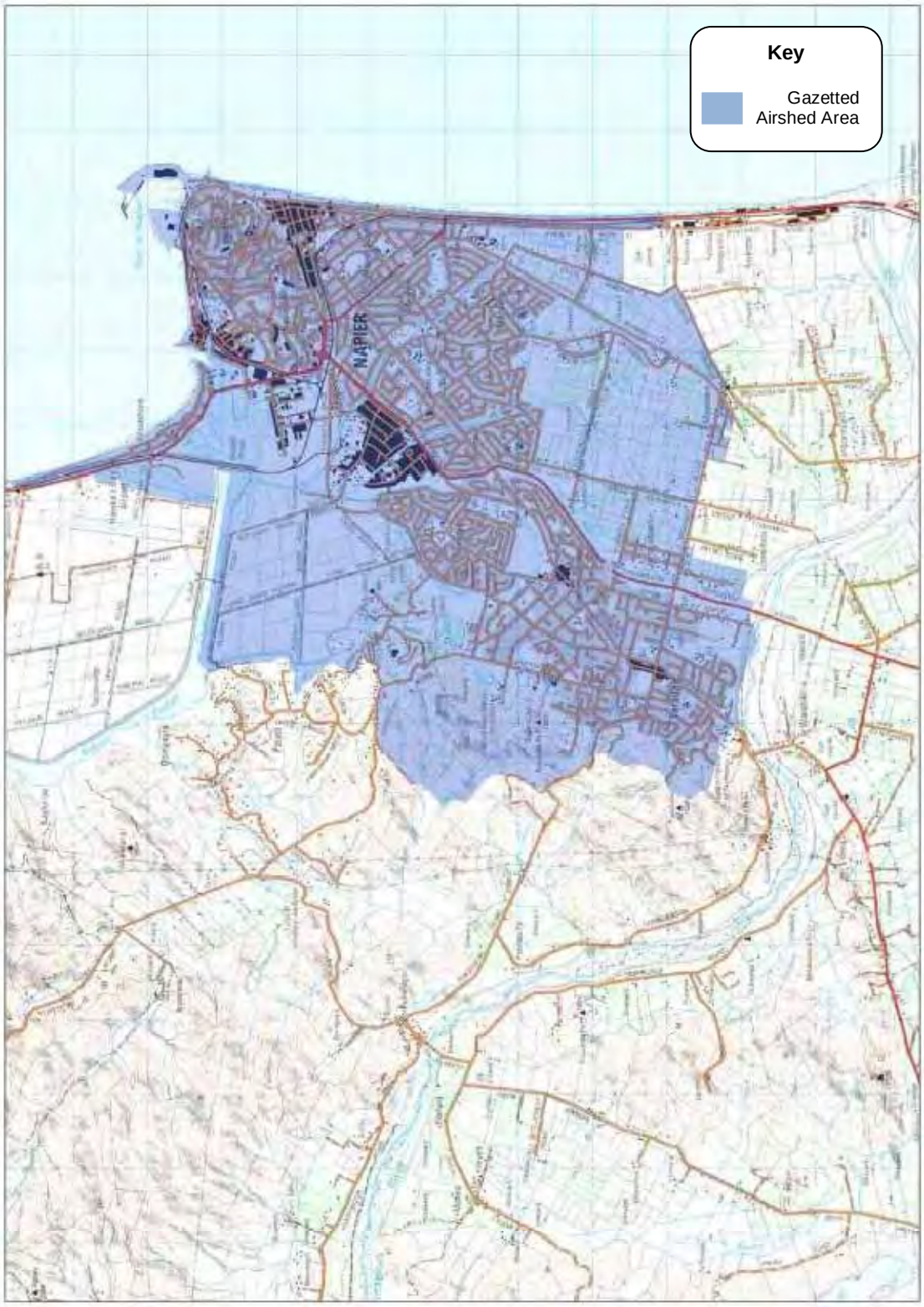
d) confirmation that the list of measures referred to in C-1.3(f) above have been carried out.

C-1.5 the Hawke's Bay Regional Council may require information provided in accordance with C-1.3 above to be technically peer reviewed.

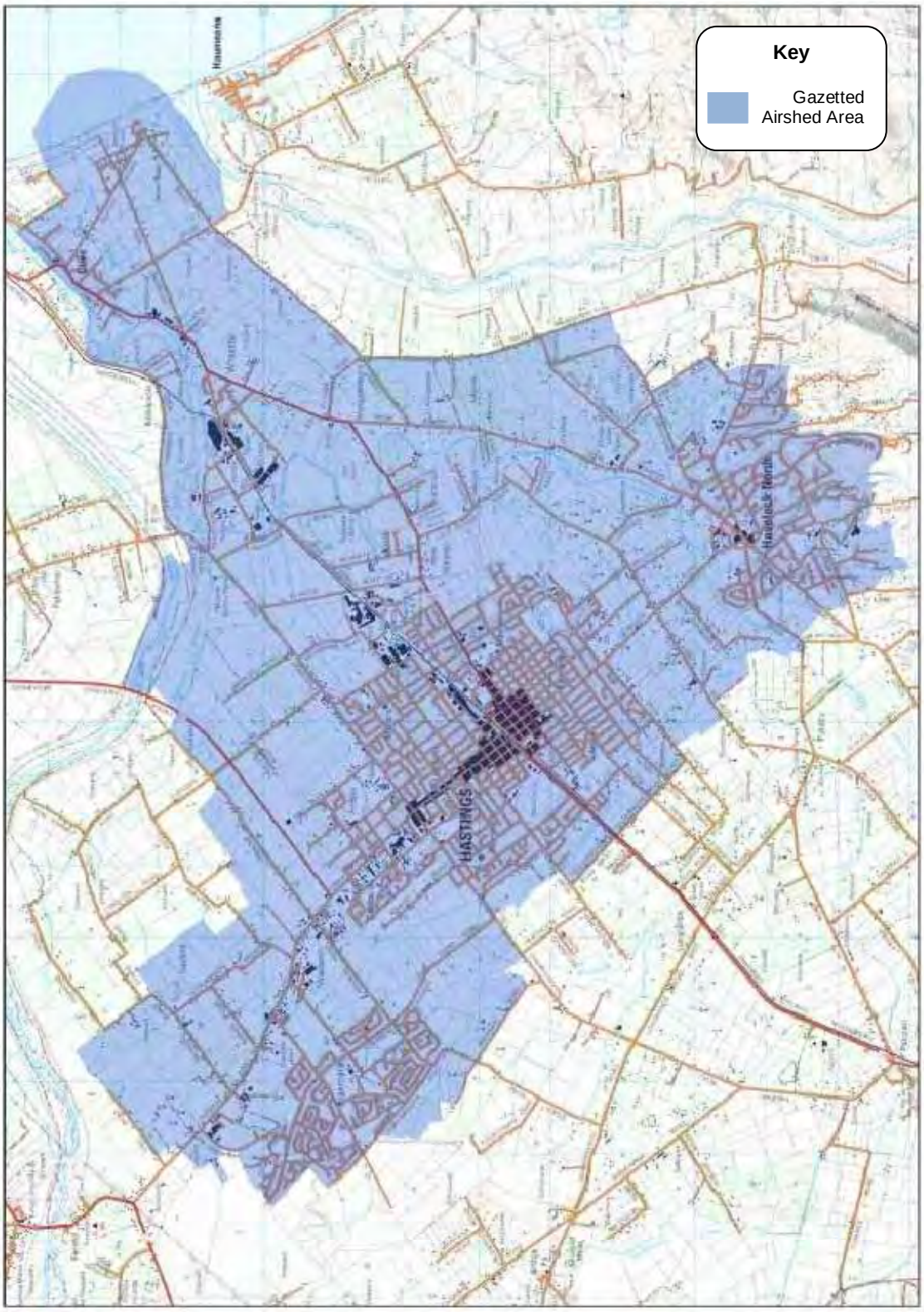
[2] An independent suitably qualified person is deemed to include the manufacturer of the burner, or a nominated representative of the manufacturer, or staff employed by the manufacturer.

Schedule XIII – Airshed boundaries and Airzone boundaries

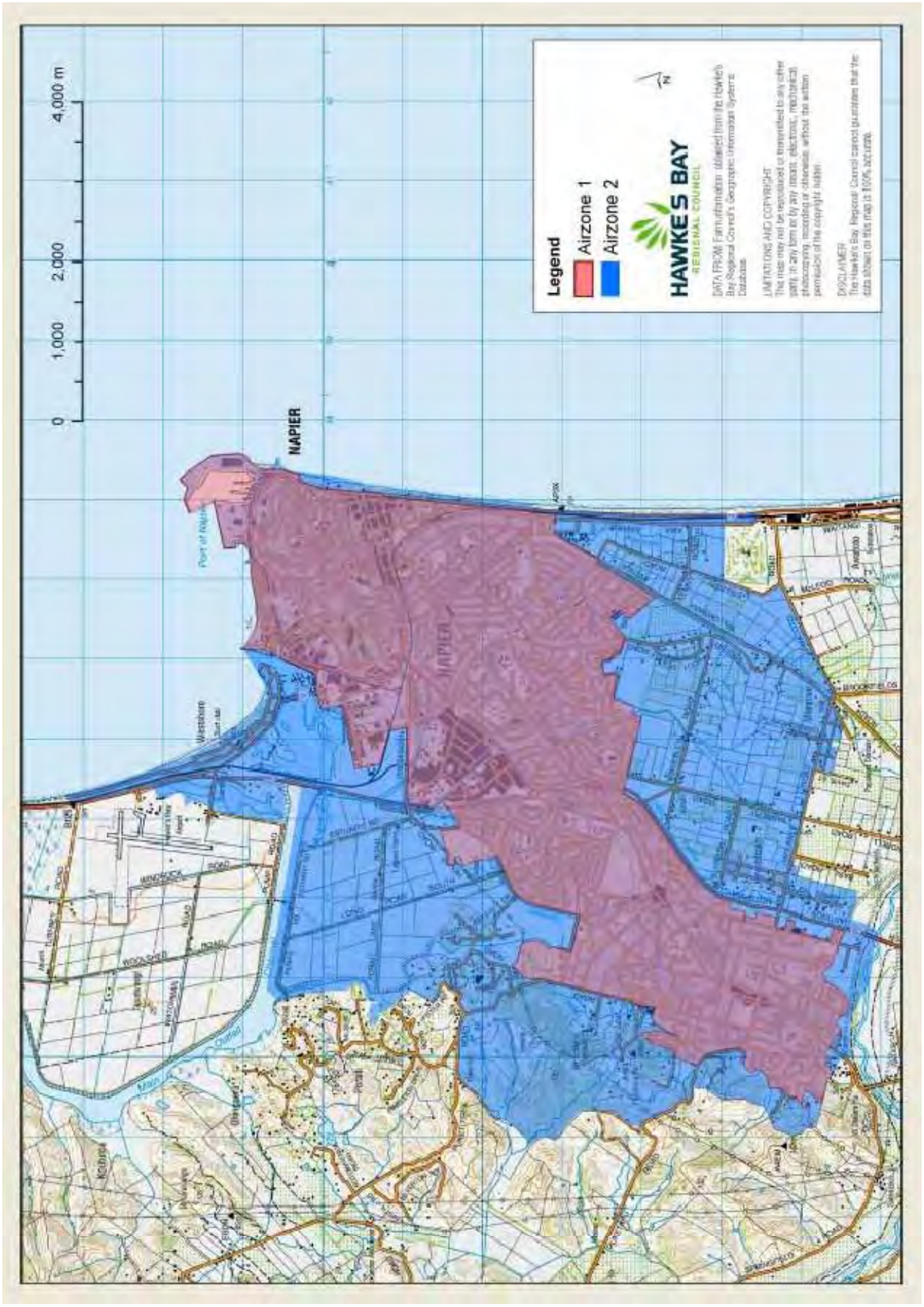
Napier Airshed



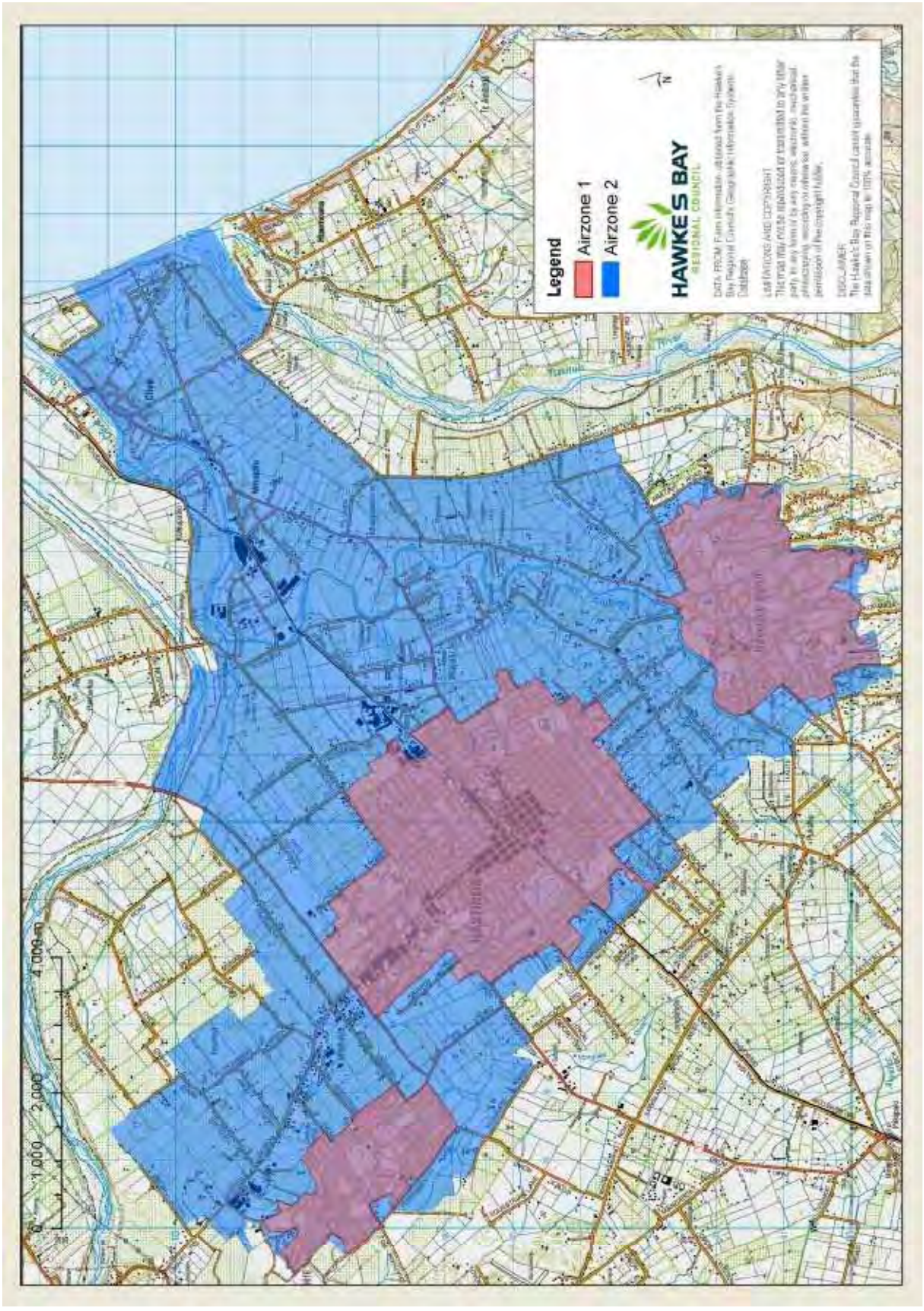
Hastings Airshed



Napier Airshed: Airzone Boundaries



Hastings Airshed: Airzone Boundaries



Add or amend the following definitions in RRMP Chapter 9 (Glossary):

9.9A Airshed
means
a) the region of a regional council excluding any area specified in a notice under (b)
b) a part of the region of a regional council specified by the Minister for the Environment by a notice in the Gazette to be a separate airshed.

Maps of airsheds gazetted under (b) are incorporated by reference in Schedule XIII.

9.53A Custom designed pellet boiler
means solid fuel burning equipment that is specifically designed and manufactured as a boiler fuelled by wood pellets and where the pellets and air are mechanically delivered to an enclosed combustion chamber at a controlled rate. This does not include solid fuel burning equipment that has been modified or customised after its manufacture.

9.56A Diesel
means a refined petroleum distillate having a viscosity and distillation range intermediate between those of kerosene and light fuel oil, whether or not it contains additives, intended for use as fuel in internal combustion equipment and external combustion equipment, but excludes re-refined oil and used oil or waste oil. Diesel must have properties that conform to the limits specified in Schedule 3 of the Petroleum Products Specifications Regulations 1988, when tested by the methods specified in that Schedule.

9.84A External combustion
means a fuel combustion process that is not internal combustion, but utilises a heat furnace primarily to generate *thermal* energy. External combustion typically involves fully aspirated burning of the fuel to heat another fluid such as water (for steam), other exchange liquids or gases, air directly, or any component or part of a process that requires thermal energy. Unlike internal combustion, mechanical energy from external combustion can only be generated indirectly, by the furnace heating a fluid within a closed circuit – typically utilising phase change of the heated fluid between liquid and gas to generate physical motion, such as via a steam turbine driven by a boiler/cooler circuit.

9.92A Freestanding Burner
means an appliance designed to be installed as a solid fuel burner in all areas of a residential dwelling except in a concrete or masonry fireplace or recessed into a building structure or fitting.

9.95A Greater Region Airshed
means an airshed covering those parts of the region which have not been specified by the Minister for the Environment in a notice In the Gazette to be a separate airshed.

9.103A Hastings Airshed
means an airshed specified by the Minister for the Environment by a notice in the Gazette over the Hastings urban area and surrounds for the purposes of managing local ambient air quality. The area covered by the Hastings Airshed is incorporated by reference in Schedule XIII , and comprises Airzone 1 and Airzone 2.

9.103B Hastings Airshed Airzone 1
means the area of the Hastings Airshed covered by Airzone 1 as shown in Schedule XIII.

9.103C Hastings Airshed Airzone 2
means the area of the Hastings Airshed covered by Airzone 2 as shown in Schedule XIII.

9.106A Heavy fuel oil
means the residual fuel oil remaining after light fuel oil and the lighter fractions have been removed from crude oil during the refining process. Heavy fuel oil is more dense and viscous and has a higher sulphur content than light fuel oil.

9.110A Incinerator
means a device that is capable of burning solid fuel and waste, but the combustion is not able to be controlled and is not totally enclosed.

9.115A Insert burner – no wetback
means a solid fuel burning appliance designed to be installed in a fireplace or a suitably flued masonry enclosure, but not connected to the hot water supply system within a residential dwelling.

9.115B Insert burner – wetback
means a solid fuel burning appliance designed to be installed in a fireplace or a suitably flued masonry enclosure and is connected to the hot water supply system within a residential dwelling.

9.118A Internal combustion
means a fuel combustion process within an engine in which *mechanical* energy is produced by the explosion of a fuel-and-air mixture within the engine (either within cylinders in the case of engines powered by fuels like petrol or diesel, or within gas turbines in the case of jet engines). While the primary purpose of an internal combustion process is to convert the energy from combustion of the fuel directly into mechanical energy, note that a significant proportion of the energy is also converted to waste heat.

9.129A Kerosene
means a highly refined fuel, also known as paraffin oil, used whenever a pure, low contamination liquid fuel is required, as in certain types of lamps, and domestic heating devices and industrial fuel burning equipment. Kerosene fuels are a clear, colourless hydrocarbon liquid and are characterised by low volatility and moderately high flash points which make them difficult to ignite and burn cleanly without preheating.

9.130A kW (kilowatt)
means a measure of power (the rate at which work is being done) where 1 kW = 10^3 (1000) Joules per second.

9.137A Light fuel oil
means residual oil of grade No. 5 or less (as described in USEPA Chapter 1 of the Compilation of Air Pollutant Emission Factors, AP-42, (January 1995) Fifth Edition, Volume I: Stationary Point and Area Sources), and contains less than 2% sulphur by weight. This does not include distillate oils such as kerosene and diesel.

9.137B Liquefied petroleum gas (LPG)
means butane, propane or a mixture of the two.

9.155A Multi-fuel burner
means a small scale fuel burner designed to burn more than one type of solid fuel.

9.155B MW (megawatt)
means a measure of power (the rate at which work is being done) where 1 MW = 10^6 (1 million) Joules per second, or 1000 kW.

9.154A Modified NESAQ compliant burner:
means a small scale solid fuel burner that meets the requirements of Part C Schedule XII after modification, and is specifically included on an approved modified burner list[2].

9.154B Modified pellet boiler
means solid fuel burning equipment that has been modified after manufacture and/or installation to convert it to a boiler fuelled by wood pellets and where the pellets and air are mechanically delivered to an enclosed combustion chamber at a controlled rate."

9.155C Napier Airshed
means an airshed specified by the Minister for the Environment by a notice in the Gazette over the Napier urban area and surrounds for the purposes of managing local ambient air quality. The area covered by the Napier Airshed is incorporated by reference in Schedule XIII, and comprises Airzone 1 and Airzone 2.

9.155D Napier Airshed Airzone 1
means the area of the Napier Airshed covered by Airzone 1 as shown in Schedule XIII.

9.155E Napier Airshed Airzone 2
means the area of the Napier Airshed covered by Airzone 2 as shown in Schedule XIII.

9.155F National Ambient Air Quality Standard
means a standard specified under the Resource Management (National Environmental Standards for Air Quality Regulations 2004.

9.158A Natural gas
means a mixture of naturally occurring hydrocarbons that are gaseous under normal conditions of temperature and pressure, comprising methane and small amounts of ethane, propane and other gases.

9.158B NESAQ
refer to National Ambient Air Quality Standard.

[2] A list of approved modified burners (i.e. those burning appliances that have been modified to comply with the NESAQ) is available from the Hawke's Bay Regional Council on request.

9.158C NESAQ compliant burner
means a small scale solid fuel burner that meets the requirements in Schedule XII, and is specifically stated on an approved burner list.[3]

9.170A Open fire
means a fireplace or similar device installed in, or attached to, any building which is capable of burning solid fuel, but where the combustion is not totally enclosed.

9.171A Outdoor burning
means the combustion of any material in the open air, other than in purpose-built fuel burning equipment designed to control the combustion process. Outdoor burning includes the use of any fire, or bonfire or burning in drums and backyard rubbish incinerators, but does not include the burning of fuels in hangi and barbeques for food cooking purposes.[4]

9.172A Particulate matter
means solid and aerosol matter that exists in the atmosphere. For the purposes of this Plan, it includes smoke, deposited particulates, suspended particulates, respirable particulates and visibility-reducing particulates. Particles range in size from 100 microns down to aggregation of molecules. Particulate matter that is less than 10 microns in aerodynamic diameter is referred to as PM_{10}.

9.172B Pellet burner
means any small-scale solid fuel burning appliance that burns only wood pellets where the pellets and air are mechanically delivered to an enclosed combustion chamber at a controlled rate.

9.176A PM_{10}
means particulate matter that is less than 10 microns in aerodynamic diameter (ie: less than 0.01mm diameter).

9.216A Small scale fuel burner
means any fuel burning equipment which burns solid fuel, diesel, oil or other liquid fuels for cooking, space or water heating or other purposes, where the net heat output from the combustion is not greater than 70 kilowatts (kW) for any gaseous or liquefied gaseous fuel, or not greater than 40 kW for any other fuel.

9.216B Small scale pellet burner
refer to pellet burner.

9.216C Small scale solid fuel burner
means fuel burning equipment with a heat generation of up to 40 kilowatts (kW), in which solid fuel is burnt for heating or cooking, and is primarily used in dwelling houses. It includes (but is not limited to) appliances for interior space heating in buildings, such as wood burners, pellet burners, pot belly and domestic ranges and stoves, water heaters or central heating units, multi-fuel burners, and similar appliances, but excludes small-scale devices used for smoking food. For the purposes of this Plan, a small scale solid fuel burner does not include an incinerator or an open fire.

9.219A Solid fuel
means a solid substance that releases useable energy when burnt (e.g. wood, manufactured fuel pellets, coal and its derivatives).

9.222A Stack
refer to Chimney.

9.245A Thermal efficiency
means the ratio of useable heat energy output to energy input.

9.253A Vegetative matter
means any tree branches, roots, leaves, grass cuttings, seed pods, stalks and stubble (stems), prunings, wood and similar organic plant material.

9.260 Waste oil
means oil that has been utilised for a process (typically lubrication, either in internal combustion engines or moving parts to minimise component wear) that results in contaminants building up in the oil. Contaminants may include heavy metal particles, combustion by-products, fuel and used additives. Note: while some 'purification' processes may result in the

[3] A list of approved burners (i.e.: those burning appliances that comply with the NESAQ) is available from the Hawke's Bay Regional Council on request.

[4] NOTE: The NESAQ contains clauses prohibiting the burning of certain materials in the open and overrides rules contained elsewhere in this Plan.

removal of a number of these contaminants, the oil even though described as 'processed waste oil' is still defined to be waste oil because the removal is often only partial.

9.272A Wood burner

means a small-scale solid fuel burner that burns wood, but does not include:

(a) an open fire; or
(b) a multi-fuel burner, a pellet burner, or a coal burner; or
(c) wood fired cooker

9.273 Wood fired cooker

means a wood fuelled cooking appliance containing an oven of not less than 20 L capacity and a hot plate and is specifically included on an approved wood fired cooker list[7]. A 'wood fired cooker' does not include a pot belly, chip heater or a wood burner.

9.273A Wood pellets

means individual pellets of between 6 mm and 8 mm in diameter and a maximum length of 38 mm made from wood shavings or sawdust bonded together by the woods natural resins though the process of pelletisation. Wood pellets made using wood, wood shavings or sawdust that has been treated with preservatives or impregnated with chemicals are excluded from this definition, except for negligible amounts of antisapstain where, in the pellets[5], the concentration of copper does not exceed 10 mg/kg dry, and the concentration of chlorine does not exceed 0.02 w-% dry[6].

[7] A list of approved wood fired cookers (i.e. those appliances that comply with the definition of 'wood fired cooker); is available from the Hawke's Bay Regional Council on request.

[5] Concentrations of copper and chlorine in a pellet shall be sampled, tested and reported in accordance with DIN51731:1996 or a similar method. DIN51731:1996 is a standard accepted in the European Union, where a 120kg sample is taken in irregular amounts over 5 consecutive working days; then that sample is split into thirds, leaving 1x40kg sample; then that 40kg sample is further split in 2 leaving 1x20kg sample; then that 20kg sample is split in 2 leaving 1x10kg sample for copper and chlorine concentration testing.

[6] ie: ≤ 200mg/kg of dry pellets.