RPS – AIR – Air

Scope and background

This chapter addresses the management of air quality. Most people living in the Region enjoy air that is clean and clear. The high standard of air quality exists not only because of the exposed nature of the Region's landscape to the prevailing winds but also because the Region is mainly rural, with a low population density compared to large urban centres, and a comparatively small number of emissions from *industrial activities**.

*Discharges** to air can include odour, products of combustion, *agrichemical** *spray drift**, particulate matter, solvents, nitrogen oxides, and other gases. They can be complex in nature and have the potential to cause adverse *effects** on *ambient air** quality and human health. Certain *discharges** must be assessed individually and regulated appropriately.

Odours, smoke and dust have dominated complaints received by the Regional Council for some time, making up more than half of the complaints received between 2000 and 2004. Some of these emissions can also be harmful to human, animal and plant health. Setting clear regional standards for *ambient air** quality, a 24-hour pollution hotline service and provision of public information are intended to help reduce the potential for adverse health and noxious, dangerous, offensive and objectionable *effects**.

In 2004 14 national environmental standards relating to air quality were introduced. These national regulations place a requirement on Regional Councils to monitor air quality and to report *ambient air** quality exceedances to the public. The primary purpose of the national *ambient air** quality standards is to set minimum requirements for outdoor air quality in order to provide a guaranteed level of protection for the health of all New Zealanders. The Regional Council has established airsheds for Taihape and Taumarunui (see RP-SCHED8) for the purpose of managing *ambient air** quality.

The ambient standards have been adopted in this Plan. However, in most cases they have minimal impacts on emissions from *industrial activities**, which will largely continue to be regulated in the same manner as in the past. As degraded air quality can impact on human health, the Health Act 1956 also gives *Territorial Authorities** and health boards some responsibilities for *dust**, ash, smoke and odour. Because of this overlap, some adverse *effects** are not dealt with as efficiently as they could be. The Regional Council is committed to establishing protocols with *Territorial Authorities** and health boards to establish clear relationships for response.

Fine Particle (*PM_{10}**) Levels

The Ministry for the Environment released the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004 to help reduce or manage fine particle (*PM_{10}**) levels. *PM_{10}** are of concern as they can be drawn into the lungs causing or aggravating health problems, particularly respiratory problems. The main cause of the *PM_{10}** problem is emissions from domestic *woodburners*, although vehicle emissions, backyard burning and, to a lesser extent, *industrial activities**, may also contribute.

As *PM_{10}** can adversely affect people's health, the national standard has been included in the airshed monitoring programmes. Direct monitoring results for wintertime *PM_{10}**, between 2001 and 2003 in 11 population centres in the Region showed that Taumarunui and Taihape exceeded the *PM_{10}** standard and Ohakune, Feilding, Dannevirke and Pahiatua had the potential to exceed it. Wintertime *PM_{10}** levels in the other five centres – Whanganui, Palmerston North, Levin, Marton and Ashhurst – were under the *PM_{10}** standard. *PM_{10}** levels will continue to be monitored and programmes will be established to reduce them to the standards set in the regulation.

Issues

AIR-I1: *Ambient air** quality

Aside from fine particle levels in some towns, as described in RPS-AIR-I2, air quality in the Region is high. Nevertheless localised adverse *effects** on *amenity values*, human health, *property* or the *environment** can arise where:

1. odour, *dust**, ash, smoke, *agrichemicals** or the *discharge** of *contaminants** is not adequately managed, or
2. incompatible *land** uses are located near each other.

AIR-I2: Fine particle (*PM_{10}**) levels

The use of home heating appliances is likely to be causing fine particle levels to exceed the national *ambient air** quality standard for *PM_{10}** in Taumarunui and Taihape, and to risk exceeding this standard in Ohakune, Feilding, Dannevirke and Pahiatua.

Objectives

AIR-O1: *Ambient air** quality

A standard of *ambient air** quality is maintained which is not detrimental to *amenity values*^, human health, *property** or the life-supporting capacity of air and meets the national *ambient air** quality standards.

AIR-O1: Te kounga hau o-waho

Ka tiakina tētahi paenga kounga hau o-waho kāore he whakawhara ki ngā ūara Taonga whakaahuru, te hauora tangata, ngā rawa, te oranga tonutanga rānei o te hau – ka eke hoki ki ngā paenga kounga hau o-waho o te motu.*

AIR-O2: Fine particle (*PM_{10}**) levels

1. Fine particle levels in Taihape and Taumarunui are reduced to comply with the national *ambient air** quality standard for *PM_{10}** by 1 September 2013[1].
2. Fine particle levels in other areas are managed in a manner which ensures ongoing compliance with the national *ambient air** quality standard for *PM_{10}**.

AIR-O2: Ngā taumata ira meroiti (PM_{10})*

1. Hei mua mai i te 1 o Hepetema 2013 ka whakahekea iho ngā ira meroiti i Taihape me Taumarunui kia hāngai tonu ki te paenga kounga hau o-waho (PM_{10}) o te motu.*

2. Ka whakahaeretia ngā taunga ira meroiti i wāhi kē kia hua ai ka hāngai tonu ki te paenga kounga hau o-waho (PM_{10}) o te motu.*

[1] The date of 1 September 2013 for achieving compliance with the national *ambient air** quality standard for *PM_{10}**, is set in the Resource Management (National Environmental Standards for Air Quality) Regulations 2004.

Policies

*Ambient air** quality

AIR-P1: *National Environmental Standards^*

The *National Environmental Standards^* set out in Table 3 must be adopted as *ambient air** quality standards for the Region and *ambient air** quality must be:

1. maintained or enhanced in those areas which meet the standards, and
2. enhanced in those airsheds which do not meet the standards

in accordance with the air quality categories and designated responses in Table 4.

Table 3 - *National Environmental Standards^* for *Ambient Air** Quality[2]

*Contaminant**	Threshold Concentration	Permissible Excess
Carbon monoxide	10 mg/m^3 (running 8-hour mean)	One 8-hour period in any 12-month period
Nitrogen dioxide	200 µg/m^3 (1-hour mean)	Nine 1-hour periods in any 12-month period
Ozone	150 µg/m^3 (1-hour mean)	Not to be exceeded at any time
Fine particles (PM_{10}*)	50 µg/m^3 (24-hour mean)	One 24-hour period in any 12-month period
Sulphur dioxide	350 µg/m^3 (1-hour mean)	Nine 1-hour periods in any 12-month period
	570 µg/m^3 (1-hour mean)	Not to be exceeded at any time

[2] Resource Management (National Environmental Standards for Air Quality) Regulations 2004

Table 4 - Air Quality Categories and Designated Response

Category	Measured Value	Designated Response
Unacceptable	Greater than the threshold concentration in the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (NES-AQ), and exceeds the permissible excess in Table 3	• Enhance • Establish long-term strategy • Monitor • Publicly notify exceedances
Degraded	66% to 100% of the threshold concentration in the NES-AQ in Table 3, with one exceedance	• Maintain, and enhance where practicable • Establish awareness programmes • Monitor where practicable
Acceptable	Up to 66% of the threshold concentration in the NES-AQ in Table 3, with one exceedance	• Maintain

AIR-P2: Regional standards for *ambient air** quality

In addition to the *National Environmental Standards*^ set out in RPS-AIR-P1, *ambient air** quality must be managed in accordance with the regional standards set out in Table 3.

Table 5 - Regional Standards for *Ambient Air** Quality

*Contaminant**	Regional Standard
Odour	• A *discharge** must not cause any offensive or objectionable odour beyond the *property** boundary.
*Dust** and ash	• A *discharge** must not cause any noxious, offensive or objectionable *dust** or ash beyond the *property** boundary.
Smoke and *water** vapour	• A *discharge** must not result in any objectionable or offensive smoke or *water** vapour beyond the *property** boundary.
*Agrichemicals**	• A *discharge** must not give rise to noxious or dangerous levels of *agrichemicals** in terms of human health, non-target plants or animals, or *property**.
Gases and other airborne *contaminants**	• A *discharge** must not result in noxious or dangerous levels of gases or other airborne *contaminants** beyond the *property** boundary.

Note: There are guidelines contained within RP-AIR that assist in defining the terms noxious, dangerous, offensive and objectionable.

AIR-P3: Regulation of discharges* to air

*Discharges** of *contaminants** into air will be generally allowed, provided:

1. the *effects** of the *discharge** are consistent with the approach set out in RPS-AIR-P1 for implementing the *National Environmental Standards*^ for *ambient air** quality, and
2. the *discharge** is consistent with the regional standards for *ambient air** quality set out in RPS-AIR-P2.

AIR-P4: Incompatible *land** uses

Air quality problems arising from incompatible *land** uses establishing near each other must be avoided, remedied or mitigated primarily through *district plans*^ and *Territorial Authority** consent decisions which:

1. prevent the future establishment of potentially incompatible *land** use activities near each other, or

2. allow the establishment of potentially incompatible *land** use activities near each other provided no existing lawful activity, operated in a manner that adopts the *best practicable option** or which is otherwise environmentally sound, is restricted or compromised.

Fine Particle (PM_{10}*) Levels

AIR-P5: Fine particles in Taihape, Taumarunui and other unacceptable airsheds

1. The Regional Council has established airsheds for Taihape and Taumarunui, as shown in RP-SCHED8, on the basis that the fine particle (PM_{10}*) levels at these centres breach the *National Environmental Standards*^ under RPS-AIR-P1. The Regional Council must establish additional airsheds where monitoring shows fine particle levels that are in breach of the *National Environmental Standards*^[3].

2. Strategies to reduce fine particle (PM_{10}*) levels must be established by 2011 for Taumarunui and Taihape, and after this date for any other airsheds with concentrations of fine particles that breach the *National Environmental Standards*^. The strategies will primarily focus on existing *woodburners** and other home heating appliances, and will identify ways of facilitating and supporting the changes necessary to comply with the fine particle standard.

3. Applications to *discharge** fine particles (PM_{10}*) in the Taihape and Taumarunui airsheds (and within any other airsheds with concentrations of fine particles that breach the *National Environmental Standards*^ and which are gazetted by the Regional Council) that are likely to increase significantly the concentration of fine particles (PM_{10}*) in those airsheds, must be managed in accordance with regulations 17A and 17C of the NES-AQ.

AIR-P6: Fine particles in Ohakune, Feilding, Dannevirke and Pahiatua and other degraded areas

The Regional Council will generally only grant *resource consents*^ to *discharge** fine particles (PM_{10}*) into the air in Ohakune, Feilding, Dannevirke and Pahiatua and other areas classified as degraded under RPS-AIR-P1:

1. if the applicant has shown that the *discharge** is the *best practicable option**, and the consent is for a duration of five years or less, or

2. if the applicant can show that the *discharge** of PM_{10}* will be offset by a reduction in other sources of PM_{10}* within the same area.

AIR-P7: Fine particles in airsheds within the Region

1. All applications to *discharge** fine particles (PM_{10}*) into airsheds within the Region lodged before 1 September 2013 must be managed in accordance with regulation 18 of the NES-AQ.

2. All applications to *discharge** fine particles (PM_{10}*) within the Region lodged after 1 September 2013 must be managed in accordance with regulation 19 of the NES-AQ.

[3] Under the NES-AQ airsheds must be established for areas failing to meet the *National Environmental Standards*^ for *ambient air** quality, for the purpose of monitoring and managing air quality.

Methods

Managing *discharges** to air is a mix of regulatory and non-regulatory approaches. Part II of this Plan contains regional rules relating to the activities described in this chapter. The key non-regulatory methods the Regional Council will pursue are outlined below.

AIR-M1	**Improving Air Quality (*PM_{10}**) – Long-term Strategies: Taumarunui and Taihape and Other Unacceptable Airsheds**
Description	Long-term strategies will be developed to improve air quality in Taumarunui and Taihape, and other unacceptable airsheds, to meet the national *ambient air** quality standard for fine particles (*PM_{10}**). The primary focus of the long-term strategies will be to reduce *PM_{10}** emissions from home heating appliances (*woodburners*). Strategies will include: • consultation with the community • participation in the Ministry for the Environment "home heating programme" • investigation of funding options for upgrading domestic heating appliances • emissions inventory assessments and education • monitoring of *PM_{10}** • encouraging practices that will reduce *PM_{10}** emissions, including reduction of backyard burning.
Who	Regional Council, Ministry for the Environment, Ministry of Social Development, Energy Efficiency Conservation Authority, district health boards, *Territorial Authorities**, industry and the community.
Links to Policy	This method implements RPS-AIR-P5.
Target	Taumarunui and Taihape airsheds will meet the national *ambient air** quality standard for fine particles (*PM_{10}**) by September 2013.

AIR-M2	**Improving Air Quality (*PM_{10}**) – Awareness Programme: Ohakune, Feilding, Dannevirke, Pahiatua and Other Degraded Areas**
Description	The aim of this method is to increase awareness of air quality issues in Ohakune, Feilding, Dannevirke and Pahiatua, and other degraded areas, and to encourage practices that may improve air quality such as: • use of more efficient *woodburners* • upgrading of *woodburners* to reduce *PM_{10}** emissions • reducing backyard burning • monitoring of *PM_{10}** where practicable.
Who	Regional Council, Ministry for the Environment, Ministry of Social Development, Energy Efficiency Conservation Authority, district health boards, *Territorial Authorities**, industry and the community.
Links to Policy	This method implements RPS-AIR-P6.
Target	*PM_{10}** levels in Ohakune, Feilding, Dannevirke and Pahiatua will be maintained or improved to ensure ongoing compliance with the national *ambient air** quality standard for fine particles (*PM_{10}**).

AIR-M3	**Monitoring by the Regional Council**
Description	Air quality will be monitored for particulate matter (*PM_{10}**) in Taumarunui and Taihape in accordance with NES-AQ requirements and in Dannevirke, Ohakune, Feilding and Pahiatua as practicable. Air quality will also be monitored for particulate matter (*PM_{10}**) in Palmerston North and possibly Whanganui, because of the increased potential for population exposure.

AIR-M3	Monitoring by the Regional Council
	This method will also provide for the revision of the status of airsheds, including the gazettal of new airsheds in relation to National Environmental Standards for *ambient air** quality.
Who	Regional Council, Ministry for the Environment, National Institute of Water and Atmospheric Research and *Territorial Authorities**.
Links to Policy	This method implements RPS-AIR-P1, RPS-AIR-P2, RPS-AIR-P3, RPS-AIR-P5 and RPS-AIR-P6.
Targets	To monitor air quality to the standard required in the National Environmental Standards for *ambient air** quality. To revise airshed status every two years after this Plan becomes operative and gazette new airsheds as necessary.

AIR-M4	Protocols with *Territorial Authorities** and District Health Boards
Description	This method includes the development of protocols or memoranda of understanding with *Territorial Authorities** and district health boards for air quality issues to agree on respective responsibilities, in particular: • smoky fires and incinerators • fire permits and *outdoor burning** • *dust** and ash complaints • odour complaints • complaints about airborne *contaminants**, gases and fumes, and dangerous or noxious *discharges**.
Who	Regional Council, *Territorial Authorities** and district health boards.
Links to Policy	This method implements RPS-AIR-P2 and RPS-AIR-P4.
Target	Protocols agreed and signed off by 2009.

AIR-M5	Public Information – Air Quality
Description	Easily accessible information will be developed and provided on the following air quality issues for the general public: • smoky fires and incinerators • fire permits and *outdoor burning** • *dust** and ash • odours • airborne *contaminants**, gases and fumes • burning of *wastes** • PM_{10}* and home heating • *agrichemical** *spray drift**.
Who	Regional Council, *Territorial Authorities**, district health boards and other relevant organisations.
Links to Policy	This method implements RPS-AIR-P1 to RPS-AIR-P6.
Target	Information provided via website and available in paper form by 2009.

AIR-M6	24 Hour Pollution Hotline
Description	This service relates to the ongoing provision of a 24 hour Pollution Hotline to record and respond to air quality complaints.
Who	Regional Council.

AIR-M6	24 Hour Pollution Hotline
Links to Policy	This method implements RPS-AIR-P1 to RPS-AIR-P6.
Targets	24 hour Pollution Hotline continues and is widely publicised.

Principal reasons

AIR-PR1: *Ambient Air** Quality

RPS-AIR-O1, RPS-AIR-P1 to RPS-AIR-P4 and the associated methods establish a framework to manage *ambient air** quality, in particular to manage the *effects** of various *discharges** to air and to reduce nuisance *effects**.

RPS-AIR-P1 sets out the National Environmental Standards for *ambient air** quality as required by the NES-AQ. The Regional Council has used the standards as a framework for the regional standards for *ambient air** quality as reflected in RPS-AIR-P2. These policies will assist in developing the methods the Regional Council has put in place to ensure that compliance with the National Environmental Standards is achieved by 1 September 2013. To achieve the compliance date the Regional Council will need to work closely with *Territorial Authorities** and district health boards to establish clear responsibility protocols.

The Regional Council recognises that some resource users need to *discharge** to air to provide for their social, cultural and economic wellbeing. Even those who operate under best practice guidelines may receive complaints. RPS-AIR-P3 and RPS-AIR-P4 allow for such resource users and the monitoring methods (such as public information, a 24-hour Pollution Hotline and compliance monitoring) to ensure National Environmental Standards and regional standards are not breached. RPS-AIR-P4 and the associated methods assist in educating the community about rural versus lifestyle block incompatibilities and also encourage *Territorial Authorities** to review future *land** use developments to prevent incompatibility and reduce future complaints.

AIR-PR2 Fine Particle (*PM_{10}**) Levels

RPS-AIR-O2, RPS-AIR-P5, RPS-AIR-P6 and RPS-AIR-P7, and the associated methods set out a framework to reduce or manage fine particle (*PM_{10}**) levels in order to meet the NES-AQ.

The Ministry for the Environment released these regulations in September 2004. One of the standards applies to *PM_{10}** which can adversely affect people's health. The regulations require that airsheds are established where exceedance of standards is likely, that *PM_{10}** levels are monitored and reduced in those airsheds to the standards set in the regulations by 2013, and that resource consent applications in those airsheds are determined in accordance with regulations 17A and 17C, 18 and 19.

Monitoring results for wintertime *PM_{10}** between 2001 and 2003 confirmed that Taumarunui and Taihape exceeded the *PM_{10}** ambient standard and Ohakune, Feilding, Dannevirke and Pahiatua had the potential to exceed it. RPS-AIR-P5 specifically targets Taumarunui and Taihape and RPS-AIR-P6 targets Ohakune, Dannevirke, Feilding and Pahiatua at a response level consistent with the *PM_{10}** monitoring results mentioned above. Domestic home heating is the most likely main contributor to wintertime *PM_{10}** levels. Resource consent applications in the Taumarunui and Taihape airsheds must be determined as per regulations 17A and 17C, 18 and 19.

While Palmerston North remains under the *PM_{10}** ambient standard, monitoring will continue, to ensure that *PM_{10}** levels remain at an acceptable standard for the city's population base.

Anticipated environmental results

Anticipated Environmental Result	Link to Policy	Indicator	Data Source
AIR-AER1 By 2013 fine particle (*PM_{10}**) levels in the Region meet the NES-AQ.	Air Policies: RPS-AIR-P1, RPS-AIR-P5, RPS-AIR-P6 and RPS-AIR-P7	• *PM_{10}** levels, especially in Taumarunui and Taihape	• The Regional Council's state of *environment* air quality monitoring programme
AIR-AER2 The number of confirmed incidents of objectionable, offensive or noxious airborne substances causing adverse *effects** beyond *property** boundaries is reduced by 10% over the life of this Plan.	Air Policies: RPS-AIR-P1, RPS-AIR-P2, RPS-AIR-P3 and RPS-AIR-P4	• Number of confirmed incidents	• The Regional Council's incidents database • Consent compliance database