Ministry for the
Environment
Manatū Mō Te Taiao

2008 Report on Progress: National Environmental Standards for Air Quality

New Zealand Government

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1 Introduction

In 2004, the Ministry for the Environment gazetted the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins and Other Toxics) Regulations 2004 (Including Amendments 2005) (the regulations). The regulations include five key provisions:

- ambient air quality standards for five pollutants
- a requirement for regional councils to monitor air quality and report any breaches of the ambient standards to the public
- restrictions on the granting of resource consents for industrial emissions in polluted areas
- design standards for new wood burners and large landfills
- a list of banned activities (to limit emissions of toxic compounds, including dioxins).

Regional councils are responsible for implementing the regulations. Given that 2008 was halfway to the 2013 deadline it was considered timely to review the implementation of the regulations to highlight any risk areas early and to permit time to work with councils towards compliance.

1.1 Review methodology

The Ministry undertook the review of regional council implementation of the regulations on a cooperative basis. We:

- notified the Chief Executive Environment Forum of our intention to undertake the review in April 2008
- discussed the review with all councils through their National Air Quality Working Group (NAQWG) representatives in May 2008,[1] and obtained staff input into the review's design by preparing a review protocol and requesting feedback on this protocol
- visited each council in person throughout June, July and August 2008 and conducted interviews with nominated staff with the aim of reviewing all factors that affect implementation (as opposed to focusing simply on compliance)
- used the opportunity of visiting each council to share information on best practice and central government assistance programmes
- recorded council interviews in draft form initially to permit time for review and further comment; council responses were finalised within two to four weeks of each visit.

In addition, the Ministry carefully structured the review to:

- identify any barriers and/or risks to successful implementation of the regulations
- provide sufficient context for other factors affecting air quality management (eg, staff resourcing, other council commitments)

[1] The National Air Quality Working Group comprises technical staff from all regional councils and unitary authorities, as well as the following central government agencies: Ministry for the Environment, Ministry of Transport, Ministry of Health, Energy Efficiency and Conservation Authority, New Zealand Transport Agency, and Ministry of Education.

- recommend, where feasible, how the Ministry can provide assistance and/or leadership towards compliance.

Appendix 1 contains a copy of the review protocol.

A draft report was prepared in September 2008 and posted on the NAQWG website for comment. The draft report was then presented to the NAQWG meeting in November 2008. Council comments were received up to January 2009, and the report was finalised in March 2009.

1.2 Review results

Council interviews are summarised in appendix 2 and discussed in the remainder of this report. The following section discusses key air quality issues for New Zealand as well as region-specific contextual information relevant to air quality management.

Key air quality issues

In 2008, New Zealand's key air quality issue was winter-time pollution in urban areas. This winter-time pollution is due to PM_{10} (particulate matter less than 10 microns in diameter) emissions from solid-fuel domestic combustion (ie, home heating). The New Zealand ambient PM_{10} standard is 50 micrograms per cubic metre ($\mu g/m^3$), as measured over 24 hours, with one exceedance permitted per year. Ambient air quality has breached this standard in all regions of New Zealand except three (Gisborne District Council, Horizons Regional Council, and Taranaki Regional Council).

Table 1 summarises the top 10 worst polluted airsheds in New Zealand.

Table 1: Top 10 polluted airsheds in New Zealand[a]

Ranking	Airshed	Regional council	2nd highest concentration[b] ($\mu g/m^3$)	Number annual exceedances
PM_{10} standard = 50 $\mu g/m^3$ with 1 exceedance permitted per year				
1	Alexandra	Otago	130	46
2	Christchurch	Canterbury	172	27
3	Nelson	Nelson	108	51
4	Timaru	Canterbury	130	36
5	Kaiapoi	Canterbury	145	28
6	Rotorua	Bay of Plenty	112	24
7	Richmond	Tasman	111	21
8	Ashburton	Canterbury	104	23
9	Tokoroa	Waikato	83	33
10	Hastings	Hawke's Bay	114	18

[a] Ranking is based on data from 2005/06 (with additional data from 2007 where available) and considers both second-highest concentration and maximum number of exceedances. The methodology for ranking was provided to EECA and all regional councils in April 2008.

[b] The regulations permit 1 exceedance of the PM_{10} standard each year.

Region-specific air quality issues

The following regions face unique or special challenges with respect to air quality management that are worth noting:

- Auckland, where vehicle emissions are a significant background load factor
- Northland, which has the only airshed gazetted for managing sulphur dioxide (Marsden Point airshed), due to the presence of New Zealand's only oil refinery
- Hawke's Bay, Marlborough, Otago and Tasman, where agricultural burning practices can affect air quality in neighbouring urban areas
- Southland and the West Coast, where there is a heavy predominance of multi-fuel burner installations (wood burners are very rare at less than 3 per cent)
- Waikato, Otago and Canterbury, which contain a large number of airsheds that are likely to exceed the PM_{10} standard, although most of these airsheds have relatively small populations.

In addition, at the time this report was being prepared there was a Royal Commission of Inquiry into local governance in Auckland. At that time the Auckland Regional Council reported problems in its relationships with territorial authorities in the region.

2 Prohibited activity standards

The regulations state that regional councils and unitary authorities **must** enforce the six bans that came into effect on 8 October 2004. The regulations further state that after 1 September 2006 regional councils **must** enforce the ban on incinerators at schools and hospitals.[2]

2.1 Identified breaches

Councils did not identify any breaches of the ban on new high-temperature hazardous waste incinerators. Identified breaches for other prohibited activity standards are summarised in table 2.

Table 2: Identified breaches of the prohibited activity standards

Council	Open fires at landfill	Open burning	Burning of bitumen	Burning of coated wire	Open burning of oil
Auckland					
Bay of Plenty		✓		✓	
Canterbury		✓		✓[3]	
Gisborne		✓			
Hawke's Bay				✓	
Horizons		✓		✓	
Marlborough		✓		✓	✓
Nelson					
Northland		✓		✓	
Otago					
Southland	✓	✓	✓	✓	
Taranaki	✓	✓			
Tasman		✓			
Waikato				✓	
Wellington		✓		✓	
West Coast		✓			

2.2 Enforcement

Environment Bay of Plenty and Environment Southland indicated breaches of the prohibited activity standards in their regions but reported no enforcement action. The remainder of the councils issued 18 abatement notices and 81 infringement notices, and carried out two prosecutions. The West Coast Regional Council was unique in using written formal warnings only.

[2] Unless resource consent is provided before this date.

[3] A potential breach that is currently being investigated.

2.3 Resource consents for school and hospital incinerators

In 2004, the Ministry provided clear guidance encouraging schools to cease using incineration for waste disposal. In 2006, the Ministry of Education undertook an assessment of all schools in relation to best practice for waste management. Following this assessment a number of schools applied for consent for incinerators. The majority of these schools were located in rural areas with limited waste disposal alternatives.

The review shows that 10 councils granted consent for 71 school incinerators (table 3).

Table 3: Consents for school incinerators granted before 1 September 2006

Council	School incinerators
Auckland	–
Bay of Plenty	4
Canterbury	1
Gisborne	8
Hawke's Bay	13
Horizons	16
Marlborough	1
Nelson	–
Northland	11
Otago	–
Southland	–
Taranaki	–
Tasman	–
Waikato	13
Wellington	–
West Coast	1
Total	**68**

Although conditions and operations varied, a number of the school incinerators were little more than open drums. From this limited review, Northland Regional Council appears to be the only council to have physically inspected all incinerators since granting consent. Northland also limited the consent period for these incinerators to three to five years and indicated to applicants that renewal was unlikely.

2.4 Review of implementation

Overall, implementation of the prohibited activity standards is very good. This may be mainly due to the existing provisions of regional plans that largely duplicate the regulation requirements. Councils identified few barriers to implementation, and the majority felt that nothing further was needed from the Ministry to assist with effective enforcement.

The majority of councils were of the view that the prohibited activity standards are effective, and the Ministry supports this view. Gisborne District Council's response to a query about the effectiveness of the prohibited activity standards was illuminating:

> Yes. Particularly for coated wire – we used to have an auto dismantler who used to do this in town in a 44 gallon drum. Every few months we used to get called out – since the NES came into force we've issued 1 abatement notice and he's stopped doing it. We also pointed out that it was now a national regulation and that we had stronger regulatory powers to prosecute.

It is, however, notable that a number of schools continue to incinerate waste in poor combustion conditions.

3 Landfill design standard

The regulations state that after 8 October 2004 regional councils and unitary authorities **must** enforce the requirements of the landfill gas standard for any new landfill over 1 million tonnes design capacity.

3.1 Review of implementation

The review reveals four large landfills not complying with the landfill design standard, as shown in table 4. Marlborough District Council and Otago Regional Council indicated that problems with engineering design were the cause. However, these councils (and Greater Wellington) have not provided information of any enforcement action.

The implementation and effectiveness of the landfill design standard is therefore considered to be patchy. Four landfills were identified as being non-compliant but, based on a lack of information provided in this review, there appears to be no enforcement activity occurring.

Table 4: Compliance with the landfill design standard

Council	Complying	Non-complying
Auckland	Redvale, Whitford, Rosedale, Greenmount	
Bay of Plenty	NA	
Canterbury	Kate Valley	
Gisborne	NA	
Hawke's Bay	Yes (details not provided)	
Horizons	Awapuni, Bonnie Glen	
Marlborough		1 landfill (details not provided)
Nelson	NA	
Northland	NA	
Otago		Green Island
Southland	Yes (details not provided)	
Taranaki	NA	
Tasman	NA	
Waikato	Tirohia, Hampton Downs	
Wellington	Southern, Spicers, Silverstream	Wainuiomata, Otaihunga
West Coast	NA	

Note: NA = not applicable.

4 Wood burner design standards

The regulations state that after 1 September 2005 regional councils and unitary authorities **must** enforce the wood burner design standards.

4.1 Key regulatory issues

When reviewing implementation of the wood burner design standards it is important to note the following.

The regulations, promulgated under the Resource Management Act 1991, require that all wood burners installed in urban areas meet design standards for emissions and efficiency. Regional councils are responsible for enforcing these design standards. The Building Code, promulgated under the Building Act 2004, requires that all wood burner installations meet fire safety standards. Territorial authorities are responsible for enforcing these safety standards, and they do this through the provision of a building consent.

In addition, five councils have wood burner design standards for emissions and efficiency in their regional plans. These councils are Auckland Regional Council, Environment Canterbury, Nelson City Council, Tasman District Council and Otago Regional Council. These design standards may be more stringent than the regulations.

There is no link between the regulations, regional plans and the Building Code. This means that a territorial authority could legally give building consent for a burner that is illegal under the regulations or a regional plan. In other words, the wood burner may be installed but it may not be used. In practice, and based on advice from the Ministry, most territorial authorities in New Zealand refuse consent for wood burners that are not authorised. For unitary authorities, who assume the duties of both a territorial authority and a regional council, it is straightforward to ensure that wood burner installations meet all relevant design and safety standards.

4.2 Enforcement

No councils have undertaken any enforcement action in relation to the wood burner standards. Two councils (one regional, one unitary) further queried who was responsible for enforcing the wood burner design standard. Environment Canterbury and Nelson City Council partnered the Ministry in the national performance review of wood burners.[4]

4.3 Review of implementation

Unitary authorities are confident that they are successfully implementing the wood burner design standards in their regions (Gisborne, Marlborough, Nelson and Tasman). As noted above, implementation of the wood burner design standards is a relatively straightforward matter for unitary authorities. However, implementation of the wood burner design standards by

[4] Available at: http://www.mfe.govt.nz/laws/standards/woodburners/performance-review.html

regional councils is largely not happening. Councils have identified structural impediments to implementation, such as:

- no link between the regulations, regional plans and the Building Code
- no power to enter private homes
- no power to require territorial authorities to provide information on wood burner consents.

In spite of this, it is striking that the majority of regional councils have not even spoken to territorial authorities in their regions about the wood burner design standards.[5] Specifically, few, if any, councils had requested information on the number and type of solid-fuel burners installed each year. This information is essential for effective air quality management in airsheds subject to pollution from home heating.

What could the Ministry for the Environment do?

The Ministry has provided extensive support for implementation through the provision of a national list of authorised burners (as notified by Environment Canterbury and Nelson City Council) and by undertaking a national review of performance of wood burners (in partnership with Environment Canterbury and Nelson City Council). There are clear advantages to the Ministry taking on this leadership role in that, as a single national agency, it is significantly more efficient for the Ministry to undertake a performance review than 16 different councils.

There was strong support from councils for the Ministry's national performance review of wood burners, with requests for this to be repeated and/or extended. Councils were further supportive of the Ministry's national authorised list of wood burners. Environment Canterbury recommended the establishment of a national authorisation process.[6] This could be administered by either the Ministry or an independent agency, and could be fully cost recoverable. This option has historically been supported by the New Zealand Home Heating Association.

A number of councils recommended the Ministry link the regulations to the Building Code. This is not a legally viable option.

Effectiveness of the wood burner design standards

Nearly all councils viewed the design standards for wood burners as effective. However, the majority of councils did not think the regulations go far enough. This is because the design standards only apply to wood burners and do not affect disproportionate polluters such as open fires, coal burners and multi-fuel burners.

The Ministry regularly fields requests for advice about implementation (of the wood burner design standards) from a number of territorial authorities. This indicates that some territorial authorities are actively implementing the wood burner design standards, but there is still no clear national picture. Most importantly, there is a lack of regional data on wood burner installations due to a lack of communication between regional councils and territorial authorities. As a result, the Ministry is not sure of the effectiveness of the wood burner design standards.

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[5] It is noted that Environment Canterbury has been working with territorial authorities in the Canterbury region to implement the wood burner design standard.

[6] A draft national authorisation manual has already been prepared by the Ministry following the national performance review of wood burners. The Ministry is currently liaising with the manufacturing industry on this draft document.

5 Ambient standards

The regulations state that after 1 September 2005 regional councils and unitary authorities **must**:

- monitor air quality in accordance with the methods specified in the regulations if it is likely that the ambient standards will be exceeded in an airshed
- give public notice if the air quality in an airshed breaches the ambient standards.

5.1 Monitoring

Councils identified a total of 39 airsheds likely to exceed the ambient standards, as shown in table 5. The review shows that **all** councils are monitoring in accordance with the regulations in most areas that are likely to exceed the ambient standards.[7] Auckland Regional Council and Environment Canterbury have the most extensive monitoring networks in the country, with a significant historical record (going back to the 1960s).

A number of councils are further undertaking co-located monitoring (ie, monitoring PM_{10} using different monitoring methods in the same location). This includes Auckland Regional Council, Environment Canterbury, Environment Waikato, Environment Southland, Otago Regional Council and Northland Regional Council.

The review reveals that five airsheds are likely to exceed the ambient standards in which councils are not monitoring in accordance with the regulations. It is noted that ambient air quality monitoring incurs significant expenditure, and that these airsheds all have populations less than 6000.[8]

[7] Except Taranaki Regional Council, which considers no areas likely to exceed in their region.

[8] Initial capital outlay and set-up costs for a PM_{10} monitor are around $50,000–$70,000.

Table 5: Monitoring of airsheds likely to exceed the ambient standards[a]

Council	Airshed likely to exceed – monitored	Airshed likely to exceed – not monitored
Auckland	Auckland, Kumeu, Pukekohe	
Bay of Plenty	Rotorua	
Canterbury	Ashburton, Christchurch, Geraldine, Kaiapoi, Rangiora, Timaru, Waimate	Hanmer, Kaikoura, Temuka
Gisborne	–	
Hawke's Bay	Awatoto, Hastings, Napier, Whirinaki	
Horizons	–	Taumarunui
Marlborough	Blenheim	
Nelson	Nelson A, Nelson B	
Northland	Marsden Point, Whangarei	
Otago[b]	Airsheds 1, 2 and 3 with monitoring carried out in: Alexandra, Arrowtown, Clyde, Cromwell, Dunedin, Milton, Mosgiel, Ranfurly and Oamaru	
Southland	Gore, Invercargill	Winton
Taranaki	–	
Tasman	Richmond	
Waikato	Hamilton, Putaruru, Taupo, Te Kuiti, Tokoroa	
Wellington	Wairarapa, Wainuiomata	
West Coast	Reefton	

[a] In accordance with Schedule 2 of the regulations.

[b] Otago airsheds were gazetted collectively as Airsheds 1, 2 and 3. Monitoring need only be carried out in one area of these airsheds to satisfy the regulations. In reality, the following areas are also considered likely to exceed but are not being monitored continuously: Balclutha, Palmerston and South Dunedin.

5.2 Public notice

Since the ambient standards came into force on 1 September 2005, nearly all councils have measured breaches of the ambient standards. Councils that monitor and that have had no breaches are Horizons Regional Council, Gisborne District Council, Northland Regional Council and Taranaki Regional Council.

The regulations require councils to notify all breaches of the ambient standards through a public notice, and generally this has occurred. Three exceptions are:

- Environment Bay of Plenty, which did not publicly notify exceedances of the sulphur dioxide ambient standard measured at Mt Maunganui during the summer of 2005–2006
- Hawke's Bay Regional Council, which did not notify six exceedances of the PM_{10} ambient standard measured by Ravensdown Fertiliser Cooperative at Awatoto during 2006
- Marlborough District Council, which did not notify one exceedance of the PM_{10} ambient standard measured in Blenheim during 2007.

Summary information on these exceptions is provided in appendix 2. Appendix 3 provides example public notices from all councils.

5.3 Review of implementation

Ambient air quality monitoring and reporting are stand-out areas for implementation. The regulations' explicit requirement for councils to monitor and publicly report has resulted in a dramatic improvement in publicly available information on ambient air quality. What is outstanding is that councils report ambient air quality monitoring of PM_{10} live to the internet in 34 areas:

- Environment Bay of Plenty: Tauranga, Rotorua, Whakatane
- Environment Canterbury: Rangiora, Kaiapoi, Christchurch, Ashburton, Timaru, Waimate, Geraldine
- Environment Southland: Invercargill, Gore
- Environment Waikato: Te Kuiti, Tokoroa, Taupo, Hamilton, Putaruru
- Greater Wellington: central Wellington, Lower Hutt, Upper Hutt, Wainuiomata, Tawa, Karori, Masterton
- Otago Regional Council: Alexandra, Clyde, Cromwell, Arrowtown, Ranfurly, Central Dunedin, Mosgiel, Milton
- West Coast Regional Council: Reefton.

Environment Canterbury and Otago Regional Council also provide weekly updates via email to interested stakeholders, and Environment Southland reports PM_{10} monitoring results on regional television and radio daily.

Actions to reduce emissions require justification to the public and council, and credible air quality data makes this possible. However, such extensive monitoring has not come without a cost: ambient air quality monitoring is expensive, and all councils identified this as a key barrier to implementation of the regulations.

What can the Ministry do?

Although all councils carry out some form of quality assurance and data validation of their ambient air quality monitoring data, few hold accreditation and the approaches vary. Only five councils carry out external audits of their ambient monitoring programmes regularly.[9] Several councils asked the Ministry to specify minimum monitoring and reporting requirements. There was further strong support for the Ministry to take more of a leadership role in monitoring through the provision of annual audits and workshops to address issues such as differences between monitoring methods.

Effectiveness of monitoring and public notices

Councils were largely non-committal on the question of the effectiveness of the monitoring and public notice requirements of the regulations. A number commented on the limited readership of public notices and reported very little interest in exceedances reported. An exception was Environment Southland, which has fielded enquiries following the presentation of monitoring data supplied to regional television. The Ministry notes the limited readership of public notices, but overall views the monitoring and public notification requirements of the regulations as being highly effective.

[9] Auckland Regional Council, Environment Bay of Plenty, Environment Canterbury, Gisborne District Council, Otago Regional Council and Tasman District Council.

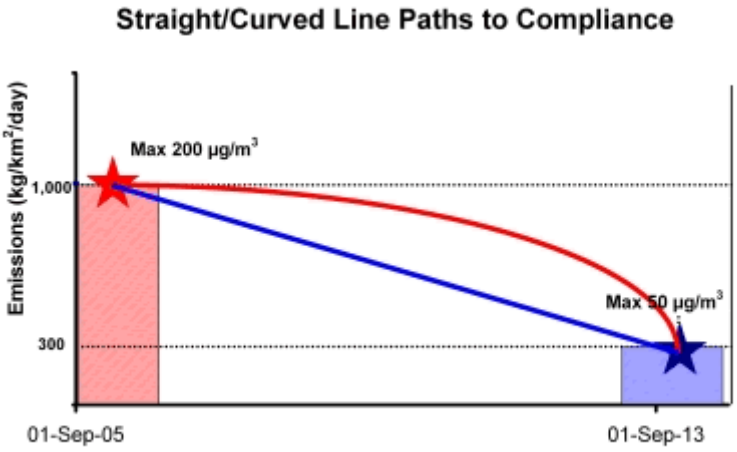
6 Resource consent restrictions

The regulations state that after 1 September 2005 regional councils and unitary authorities **must** only grant resource consents in line with the requirements outlined in regulations 17 to 21.

Specifically, after 1 September 2013 councils cannot grant consent for an industrial discharge if the airshed exceeds the ambient standard for particulate matter less than 10 microns in diameter (PM_{10}). Before then, the regulations restrict the granting of resource consent for discharges of PM_{10} in accordance with a 'straight-line path' or a 'curved-line path' to compliance. This is summarised in figure 1.

The regulation requirements are status dependent; in other words, if air quality is good, no action is required.

Figure 1: Straight- and curved-line paths to compliance



6.1 Straight-line path requirements

As noted above, councils identified 39 airsheds likely to exceed the ambient standards. Of these, 38 airsheds are considered likely to exceed the PM_{10} ambient standard and attract restrictions on the granting of resource consent. Councils have gazetted the majority of these airsheds and ascertained straight-line path requirements. Exceptions (ie, airsheds identified as likely to exceed with no straight-line path) are:

- Auckland Regional Council: Kumeu, Pukekohe
- Environment Southland: Winton
- Environment Canterbury: Hanmer, Kaikoura, Temuka
- Hawke's Bay Regional Council: Awatoto, Whirinaki
- Horizons Regional Council: Taumarunui.

Table 6 summarises all the airsheds and the status of their straight-line paths. (This information was not collected during interviews; it is provided annually to the Ministry by councils with

summary ambient air quality monitoring data.) Table 6 identifies nine airsheds that councils consider likely to exceed the PM_{10} standard for which councils have not ascertained a straight-line path. The table further shows that seven airsheds have exceeded their straight-line paths to compliance. The regulations require offsets for existing industry, and prohibit any new industry if ambient air quality exceeds the straight-line path between 1 September 2005 and 1 September 2013.

Table 6: Straight-line path status of airsheds likely to exceed the ambient standards

Council	Straight-line path compliant	Straight-line path exceeded (when)	No straight-line path
Auckland		Auckland (2007)	Kumeu Pukekohe
Bay of Plenty	Rotorua		
Canterbury	Christchurch Geraldine Kaiapoi Rangiora Timaru Waimate	Ashburton (2006)	Hanmer Kaikoura Temuka
Gisborne	–		
Hawke's Bay	Hastings Napier		Awatoto Whirinaki
Horizons			Taumarunui
Marlborough	Blenheim		
Nelson	Nelson A	Nelson B (2007)	
Northland	Whangarei		
Otago	Airshed 2[a] Airshed 3[a]	Airshed 1[a] (2007)	
Southland	Invercargill Gore		Winton
Taranaki	–		
Tasman		Richmond (2006)	
Waikato	Hamilton Putaruru Taupo	Te Kuiti (2006) Tokoroa (2006, 2007)	
Wellington[b]	Wairarapa Wainuiomata		
West Coast	Reefton		

a Otago Regional Council gazetted 22 towns collectively as Airsheds 1, 2 and 3. The council has since notified these towns collectively in a different order through a plan change as Air Zones 1 and 2.

b Table 6 was updated to incorporate advice from Greater Wellington in December 2008; the original interview is unchanged.

6.2 Consents granted − airsheds with a straight-line path

Councils indicate that since 1 September 2005 there have been nearly 100 consents granted for discharges of PM_{10} in airsheds with a straight-line path. This is summarised in table 7.

Table 7: Consents granted in airsheds with straight-line paths

Council	Airshed	Number of consents / details
Auckland	Auckland	1 / OI NZ glassworks (old NZ Glass)
Bay of Plenty	NA	
Canterbury	Christchurch Timaru Ashburton Rangiora	65 5 3 2
Gisborne	NA	
Hawke's Bay	NA	
Horizons	NA	
Marlborough	Blenheim	1 / Flight Timbers kiln and sawmill
Nelson	Nelson B	4 / Kiwi Orchids, Bens Oil, Fulton Hogan asphalt plant, Sealords shellfish plant
Northland	Whangarei	5
Otago	Not supplied	3
Southland	Not supplied	1 / School coal-fired boiler
Taranaki	NA	
Tasman	NA	
Waikato	Hamilton Putaruru	6 1
Wellington	NA	
West Coast	NA	

Note: NA = not applicable.

Assessment of significance

Regulation 17 restricts the granting of consents in airsheds exceeding the PM_{10} standard if "the discharge to be permitted by the resource consent is likely to increase **significantly** the concentration of PM_{10} in the airshed". This is commonly referred to as the 'significance' test. The review shows that council assessments of significance are highly variable.

The Auckland Regional Council approach to assessing significance has been heavily influenced by a Chen Palmer legal opinion on the regulations. This opinion provides that, due to the relative significance of other sectors in Auckland (notably vehicle and domestic heating emissions), industry is not a major contributor to PM_{10} exceedances *over the Auckland airshed in its entirety*. The Auckland Regional Council has not released the legal opinion in full.

Other councils assessed significance using a combination, or all, of the following:

- the discharge in relation to total discharges into the airshed
- the potential impact (ie, predicted maximum concentrations) in relation to the ambient standard
- the potential impact in relation to a de minimus threshold (eg, the inherent error associated with ambient monitoring, which is ± 5 $\mu g/m^3$)
- the overall impact, both with and without the proposal.

Of all consents listed in table 7, three were considered significant by the council.

Otago Regional Council is unique in not applying any significance test when considering resource consents.

Assessment of the straight-line path

Both Marlborough District Council and Northland Regional Council considered existing significant discharges in the context of an existing compliant straight-line path. This was taken to mean that consent could be granted. Northland also looked at meteorological variation (ie, how does the existing compliant airshed stack up against previous years in terms of meteorology?) to ensure compliance would not be compromised in future. Otago Regional Council indicated they did not assess any applications in accordance with the straight-line path.

Councils deemed all other applications for consent not significant. This meant that no applications required assessment in accordance with the straight-line path. Despite not considering any industry significant, the Auckland Regional Council indicated that they require each individual industry to meet a reduction of 15 per cent over baseline by 2013. This is to allow 'headspace' for future growth.

Use of offsets

Offsets are mitigation measures included in a proposal to offset predicted impacts so that emissions from the new activity are offset by emission reductions elsewhere in the airshed. However, because the majority of consents were not considered significant, offsets were not specifically required by the regulations.

Despite this, Environment Canterbury reported a consent that incorporated the use of offsets: New Zealand Dairies Ltd in Waimate. In this consent the applicant removed 36 open fires and older burners to allow for a new coal-fired boiler. The fires were replaced with either heat pumps or pellet burners. The consent further includes conditions requiring in-house monitoring (real-life testing) of five pellet fires, every five years, to ensure the offsets are real and measurable.

Auckland Regional Council indicated that they have been having preliminary discussions about offsets with a large corporation which owns 15 of the top 30 dischargers in the region. The discussions included upgrading some plants, mothballing others and 'trading' emissions from the remainder.

Additional consent information

Auckland Regional Council further indicated that they require current industry to reach best practice as soon as practicable and to implement continuous improvement to maintain a headspace for future growth. This includes regular review of international best practice for each

industry, with annual reporting to the council. Auckland further indicated that both mass and concentration emissions limits in consent conditions must be met with annual reporting to the council.

Other councils required similar reductions in PM_{10} emissions from individual applicants as follows:

- Marlborough District Council – 20 per cent by 2012
- Northland Regional Council – 30 per cent immediately
- Otago Regional Council – upgrade to best practice within three years.

Nelson City Council indicated that they have their own *Good Practice Guide* for industry applicants based on the reductions needed in each airshed.

6.3 Consents granted − airsheds without a straight-line path

As mentioned above, councils have identified 11 airsheds as being likely to exceed the PM_{10} standard for which no straight-line path has been ascertained. Greater Wellington indicated that around four consents had been issued for industry in Masterton (ie, the Wairarapa airshed) before the straight-line path was set in October 2008. Otago Regional Council granted consent for a Fonterra cheese factory in Stirling. No monitoring data is available for Stirling, but modelling indicated that exceedances (due to domestic sources) were likely. Consent was granted for 35 years, with a requirement to upgrade in three years from 18 kg/hr to 2.5 kg/hr (25–50 mg/m^3).

Regulation 17 only provides for consent to be granted in accordance with the straight-line path if an airshed exceeds the PM_{10} standard. Depending on the significance of these discharges, the above consents may not be valid.

6.4 Consents declined

Northland Regional Council is the only council to have declined an application for consent during this period. The consent was for an application to burn waste oil in a bitumen plant. Northland noted the proposal would have resulted in an increase in PM_{10}, acid gas, dioxin and heavy metal emissions, as well as increased variability in emissions of sulphur dioxide and volatile organic compounds. Also, the applicant could only guarantee the used oil would comply with proposed specifications 90 per cent of the time.

One council commented that it was highly unlikely to decline any application for consent.

6.5 Review of implementation

It appears that councils may be taking a lenient approach to establishing 'significance'. Although this review did not examine consent decisions in detail, it is hard to believe that only three consents, out of around 100 industrial consents granted since 2005, were significant. If more were in fact significant, this indicates that councils have been avoiding the restrictions on granting consents for discharges of PM_{10}.

One council appears to have openly disregarded the regulations when making consent decisions.

Effectiveness

Council opinion on the effectiveness of the consent restrictions in the regulations was split. Auckland Regional Council and Northland Regional Council expressed concern over the regulations' inconsistent approach for different pollutants.

From the Ministry's perspective, the question of significance is important because it affects the legal validity of consents granted by councils. This is particularly true for those airsheds with air quality exceeding the straight-line path. The intent behind the restrictions on the granting of consents (both before and after 2013) is to drive regional policy to implement actions to reduce emissions of PM_{10}. If councils are interpreting the regulations correctly, then this appears to have been largely unsuccessful and a re-evaluation of the significance threshold in the regulations is warranted.

7 Achieving compliance

This section looks at other aspects of the regulations. It includes a review of action plans and more general issues such as the potential for perverse incentives.

7.1 Action plans for PM_{10}

Table 8 lists all airsheds that currently exceed the PM_{10} standard, along with each council's assessment of whether there is an action plan in place and the likelihood of meeting the PM_{10} standard by 2013. It should be noted that the review did not address the adequacy of any action plans. (It should also be noted that Gisborne District Council and Taranaki Regional Council already comply with the PM_{10} standard, hence their exclusion from this table).

The review shows that of the 39 airsheds considered likely to exceed the PM_{10} standard, 31 currently exceed the PM_{10} standard. (The regulations impose monitoring and reporting requirements on airsheds likely to exceed the ambient standards, hence the previous distinction in this review). Of these 31 airsheds currently exceeding the PM_{10} standard, two-thirds (20 airsheds) are considered likely to comply with the PM_{10} standard by 2013. This means that one-third (11 airsheds) are considered unlikely to comply.

Note that the assessment of whether or not an airshed will comply is based on the judgement of each council. This judgement is based in turn on a number of assumptions and may not necessarily be consistent across all councils.

The review also shows that in 2008, 16 of the 31 airsheds currently exceeding the PM_{10} standard had an action plan in place to address compliance. Although a number of these anticipate compliance without an action plan, five airsheds currently exceed the PM_{10} standard, have no action plan in place, and are unlikely to reach compliance by 2013. Of these, one airshed is heavily over-allocated (Reefton). Considering the likelihood of compliance even with an action plan in place, a further six airsheds are anticipated not to reach compliance by 2013.

As an aside, one airshed (Wairarapa - Masterton) alternates each year between compliance and non-compliance with the PM_{10} standard. Greater Wellington considers that Masterton is unlikely to comply with the PM_{10} standard by 2013. For the purposes of the review, therefore, Masterton is categorised as currently exceeding the PM_{10} standard.

Table 8: Airsheds, existence of action plans and assessment of compliance

Council	Airshed with action plan in place, or drafted		Airshed with no action plan	
	Likely to comply	**Unlikely to comply**	**Likely to comply**	**Unlikely to comply**
Auckland				Auckland
Bay of Plenty	Rotorua[a]			
Canterbury [b]	Ashburton[a] Geraldine Rangiora Waimate	**Christchurch[a]** **Kaiapoi[a]** **Timaru[a]**		
Hawke's Bay [c]		**Hastings[a]** Napier		
Horizons			Taumarunui	
Marlborough			Blenheim	
Nelson	Nelson A[a] Nelson B			
Northland			Whangarei	
Otago	Airshed 1[a] Airshed 3	**Airshed 2 (Milton)[a]**		
Southland			Invercargill Gore	
Tasman	Richmond[a]			
Waikato			Hamilton Putaruru Tokoroa[a]	Te Kuiti Taupo
Wellington			Wainuiomata Upper Hutt	Masterton [d] (Wairarapa)
West Coast				**Reefton[a]**

[a] **Heavily over-allocated airshed.**

[b] Environment Canterbury advise they are taking a variety of measures to address air pollution in Timaru, including proposed plan changes, the Clean Heat project and a working party. The original interview did not define this as an action plan. Table 8 and appendix 2 have been amended to reflect this advice, but the original interview comments have not been updated.

[c] Hawke's Bay Regional Council notified a proposed plan change to achieve compliance with the ambient standards in December 2008, after this review was completed. Table 8 and appendix 2 have been amended to reflect this change, but the original interview comments have not been updated.

[d] Masterton (Wairarapa) airshed alternates annually between compliance and non-compliance with the PM_{10} standard. Greater Wellington considers that Masterton is unlikely to comply with the PM_{10} standard by 2013.

7.2 Sulphur dioxide

The Marsden Point airshed is unique in New Zealand in being gazetted for sulphur dioxide (SO_2). Northland Regional Council ambient air quality monitoring indicates the airshed is currently complying with the SO_2 ambient standard, but notes that monitoring only began in early 2008. The Council estimates there is a 60–70 per cent probability the Marsden Point airshed will continue to comply with the SO_2 ambient standard. The 30–40 per cent uncertainty rests primarily on unplanned outages at the Marsden Point oil refinery. Such outages have historically contributed to breaches of the SO_2 ambient standard.

The Council has prepared the *Marsden Point Strategic Air Quality Plan*, the intent of which is to plan for future industry in the SO_2-constrained airshed.

7.3 Perverse incentives

The review questioned whether any perverse incentives (ie, unintended negative consequences) had been created by the introduction of the regulations. Councils (and the Ministry) have direct experience of being advised by a retailer that a multi-fuel burner can easily run on wood to "get around the regulations" (the regulations only apply to wood burners). The concern is that this could lead to an increase in multi-fuel burner installations. Multi-fuel burners typically have higher emissions than wood burners.

The following additional concerns were noted.

- Northland notes a trend towards true green-field sites for the location of new industry. For example, Goldpine proposed a new sawmill in Ruakaka, well away from other industrial areas. This may have the unintended effect of 'filling up' previously clean airsheds with particulate pollution.
- Two councils reported industries are applying for consent early to avoid the 2013 deadline. Applicants identified include Huntly Power Station (Waikato), Golden Bay Cement and a Carter Holt Harvey sawmill (Whangarei). Tasman District Council notes that Nelson Pine are also considering early application, although this is also influenced by changes in surrounding land use.
- There has been an increase in the granting of long-term consents to avoid the 2013 deadline.

In early 2009 the Hawke's Bay Regional Council proposed a plan change that would make all discharges from industry a permitted activity.

7.4 Review of implementation

This review shows that councils are confident that the majority of airsheds (two-thirds) that currently exceed the standard will meet the PM_{10} standard by 2013. The Ministry's view is that, on the whole, councils have been working hard to implement the regulations. Details of innovative approaches and best practice air quality management initiatives are discussed further in section 8. This section of the review focuses on the remaining areas of non-compliance.

Action plan in place, unlikely to comply by 2013

At the time of review in mid-2008, councils identified three airsheds currently exceeding the PM_{10} standard, with an action plan in place, but unlikely to reach compliance by 2013:

- Christchurch
- Kaiapoi
- Airshed 2 (Milton).

No action plan in place, unlikely to comply by 2013

Since the review was carried out in mid-2008, Hawke's Bay Regional Council has notified a proposed plan change for Hastings and Napier. As a result, there are currently five airsheds

that exceed the PM_{10} standard, have no action plan in place and are unlikely to reach compliance by 2013:

- Auckland
- Te Kuiti
- Taupo
- Masterton (Wairarapa)
- Reefton.

When queried about air quality initiatives in these airsheds, council responses varied from extensive air quality management actions (Auckland Regional Council) to sparse details (West Coast Regional Council).

Responses are summarised for each council in **appendix 3**.

Councils identified the following risks and barriers to achieving the PM_{10} standard by 2013 in these areas:

- the length of time required for planning processes (eg, Auckland Regional Council still has sections of their regional air plan under appeal)
- the lack of base information (monitoring data, emissions inventories, airshed modelling) on which to make policy (West Coast Regional Council)
- the lack of central government funding (Environment Waikato).

Recommendations of the National Air Quality Working Group

The National Air Quality Working Group (NAQWG) is a technical advisory group comprising representatives from all regional councils and unitary authorities, as well as central government agencies including the Ministry for the Environment, Ministry of Health, and Energy Efficiency and Conservation Authority. The NAQWG reports to the regional managers group (comprising second-tier managers from all regional councils and unitary authorities) which, in turn, reports to the Chief Executive Officers Group (CEOs of all regional councils and unitary authorities).

In May 2008, the NAQWG recommended the following.

- There are some 'quick fixes' available to both councils and the Ministry that could make a big difference, including:
  - the point of sale rule (when introduced as a bylaw)
  - inclusion of other burners in the regulations (eg, non-complying burners and multi-fuel burners) for compromised airsheds
  - no new open solid fires in new homes.
- Different councils are at different stages of compliance with the PM_{10} standard and there may be a need for compromise (ie, non-compliance plans for councils).
- There is a strong need for continued central government funding (Clean Heat programmes through EECA).

In November 2008 the regional managers group wrote to the Ministry requesting no change to the 2013 deadline in the regulations. Shifting the goalposts was seen as increasing uncertainty and potentially undermining the good work done by early adopters.

What can the Ministry do?

Auckland Regional Council, Environment Canterbury and Environment Waikato were unanimous in suggesting the Ministry amend the regulations to regulate and/or ban **new** solid-fuel open fires, coal burners and multi-fuel burners in airsheds that exceed the PM_{10} standard. Environment Canterbury and Environment Waikato further requested that non-compliant burners be phased out by 2013. Environment Canterbury requested further funding for clean heat retrofits under the EECA Clean Heat and EnergyWise programmes and a national ban on outdoor burning in airsheds exceeding the PM_{10} standard.

The Ministry notes that 10 airsheds currently exceed and have no action plan, and yet are likely to meet the PM_{10} standard by 2013. This may be, at least in part, a sign of the effectiveness of the wood burner design standards. At the same time it is clear that the wood burner design standards are not going far enough for polluted airsheds because there are repeated calls for additional regulation. There are also strong efficiency reasons for national action on gross polluters such as open fires as opposed to making every regional council enact regional rules.

The Ministry notes that EECA funding for clean heat retrofits is currently over-subscribed.

Environment Canterbury requested the Ministry undertake a national campaign to promote the benefits of cleaner air.

8 Best practice air quality management

As noted above, the review shows that the majority of councils are working hard to implement the regulations. This section recognises councils that are at the top of their game with respect to air quality management. Three councils deserve national recognition for being innovative and/or the first to adopt best practice with respect to implementing the regulations. These are described briefly below.

Environment Canterbury and Nelson City Council "Clean Heat" schemes provide financial assistance to property owners retrofitting clean heating and insulation. This includes full subsidies for low-income households and partial subsidies or interest-free loans for middle-income households. (Similar schemes have since been implemented in Otago and Waikato.)

Tasman District Council has a regional rule requiring upgrades of non-complying solid-fuel burners when a property is sold. This highly innovative approach has a number of benefits, in that it:

- privatises the cost of upgrade but, importantly, shifts the cost to a point in time when it is effectively minimised (ie, relative to the cost of the house)
- provides an incentive for upgrades at any time so as to achieve a better purchase price
- does not impose any actual cost on people (including the elderly) not looking to sell their house
- has the potential to make a big impact on existing dirty burners within a relatively short timeframe because the average New Zealand home is sold every seven years.

Nelson City Council and Tasman District Council's business-friendly Good Wood scheme involves firewood merchants guaranteeing their wood to be less than 25 per cent moisture in return for free promotion as a 'good wood' supplier by the council. The voluntary scheme has been running for over a year and is so successful the merchants are lobbying the council to make it mandatory.

8.1 Key features of successful programmes

The Ministry views the following aspects to be critical to successful implementation of the regulations, particularly in heavily polluted airsheds.

Equity and balance

It is important that rules be equitable (target all sources and sectors) and fair (not unduly high cost). This means that rules for home heating should address all types of burners, from gross polluters (eg, open fires and older existing burners) to brand new installations. To achieve this, both carrots and sticks (ie, incentives and rules) should be used. For example, rules coupled with education and assistance for low-income households could be phased in over extended periods of time, thereby targeting existing older burners in a fair way.

Options and choice

It is important when forcing or incentivising people towards clean heat that options and choice be kept to the fore. The Ministry's Warm Homes project took great care to encourage all New Zealanders to heat their homes cleanly, efficiently and **sufficiently**; ie, simply banning wood

burners is not the answer. EECA funding reflects this by including the following options for retrofitting clean heat:

- heat pumps
- pellet fires
- low-emission wood fires
- flued gas heaters.

The exception to this approach is 'closing the back door' (discussed below).

Closing the back door

It makes no sense, in heavily over-allocated airsheds, to continue to permit new solid-fuel open fires. This is like the regulations closing the front door on new dirty wood burners but leaving the back door open for new solid-fuel open fires. As such, this is the one area where constrained choice is reasonable to achieve emission reductions. (As an aside, gas open fires may remain an option for the die-hard open fire enthusiast).

Key message about the health impacts of air pollution

It is important that the message regarding the health impacts of air pollution is kept to the fore. Intervention programmes and proposed plan changes that focus on the risks to existing industry create negative publicity that can distract from the driving force behind the regulations, which is the health of the population. Similarly, the view that central government is forcing local government to act only creates division and detracts from the real issues at stake.

Attitude

Finally, the Ministry notes the importance an individual can make to the successful implementation of the regulations (and, indeed to air quality management as a whole). Nelson City Council describes it best:

> Staff have the ability to either make or break the regulations – it often comes down to attitude and trying to make it work. I'd like to see more willingness around the country to give the NES a chance to work. Staff can have a big influence on politicians and senior management through their advice, and if we are overly pessimistic that can get reflected in the political and management level. But if we are more proactive, and can-do, that instead can be reflected.

In this regard, Nelson City Council, Northland Regional Council and Tasman District Council staff stand out for their focus on the health drivers behind the regulations and their positive and innovative approaches to implementation.

Appendix 1: Protocol for interviews

1.0 Introduction

The *Users Guide to Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins and Other Toxics) Regulations 2004 (Including Amendments 2005)* outlines the legal requirements of the NES for air quality. It further provides recommended actions for air quality management under the NES for all councils as well as guidance for implementation in airsheds known, or likely, to exceed the fine particle ambient standard.

These legal requirements and recommended actions are outlined below.

1.1 Legal requirements

- After 8 October 2004, regional councils and unitary authorities **must**:
- enforce the six bans that came into effect on 8 October 2004
- enforce the requirements of the landfill gas standard for any new landfill over 1 million tonnes design capacity.

After 1 September 2005, regional councils and unitary authorities **must**:

- monitor air quality – if it is likely that the standard concentrations will be exceeded in an airshed and in accordance with the methods specified in the regulations
- give public notice if the standard concentrations are exceeded in an airshed
- ascertain 'straight-line' requirements for consent processing for fine particle emissions in airsheds where the standard is exceeded and only grant new resource consents in line with the requirements outlined in regulations 17 to 21
- enforce the wood burner design standards.

After 1 September 2006, regional councils **must**:

- enforce the ban on incinerators at schools and hospitals unless resource consent is provided before this date.

1.2 Recommended Actions

After 1 September 2005, regional councils and unitary authorities **should** also:

- liaise with district and city councils as appropriate to ensure the wood burner design standard is implemented smoothly
- continue with existing air quality monitoring programmes and review future requirements
- review available knowledge about regional air quality including existing emission inventories (including resource consents), ambient air quality monitoring data (if available) and dispersion characteristics and develop an airshed action plan(s) to ensure any airsheds polluted with fine particles comply with the standard by 2013.

Regional councils and unitary authorities are further **invited** to:

- publicise their reasons for choosing airsheds for gazetting by the Minister
- consult with interested stakeholders (for example, industry, the Ministry) and the general public on future airshed designations
- monitor and report on enforcement and implementation of the national environmental standards
- prepare an action plan for areas that breach the ambient standards.

A review of implementation of the NES for air quality should address all of the above. In addition to this, however, it is also important to take into account the context in which each airshed is being managed. Other factors such as staff resourcing, additional council commitments and public demand can affect air quality initiatives. To provide a clear picture of implementation it is necessary to understand this context.

The following questions attempt to address both the regulatory requirements of the NES for air quality and the context in which air quality management is being carried out in each airshed.

Because the questions attempt to cover every eventuality, not all questions will be applicable to every airshed. Not all questions, therefore, need to be answered.

2.0 Interview questions

2.1 Background and context

This section attempts to record key information for each region to assist with establishing a clear picture of air quality *management*, as opposed to air quality *regulation*.

- What are the key air quality issues for your region?
  - eg, airsheds, key sources, state of compliance with ambient standards, current provisions, proposed revisions and status of regional plan (and regional policy statement if applicable).
- What other information relevant to air quality management in your region should be noted when undertaking a review of implementation of the NES for air quality in your region?
  - eg, deprivation index of airshed, regulatory approach prior to NES coming into force, air quality staff capacity (or lack thereof), location.

2.2 Enforcement of regulations

This section focuses on the regulatory requirements of the NES for air quality.

2.2.1 Prohibited Activity Standards

- Are you aware of any breaches in your region of the six bans that came into effect on 8 October 2004:
  - lighting fires and burning waste at landfills
  - burning of tyres
  - burning of road bitumen
  - burning of coated wire
  - burning of oil in the open
  - ban on high temperature hazardous waste incinerators?[10]
- Did you grant any consents for an incinerator at a school or hospital before 1 September 2006?
- Have you undertaken any enforcement action in relation to the prohibited activity standards?
- Is there other information relevant to the prohibited activity standards (eg, enforcement of regional plan provision that relates to a ban, monitoring of activities to ensure bans upheld)?
- What barriers, if any, exist to efficient enforcement of the prohibited activity standards?
- What, if anything, could the Ministry do to assist with effective enforcement of the prohibited activity standards?
- In your view, are the prohibited activity standards effective?

2.2.2 Design standards

- Are all landfills in your region compliant with the landfill design standard?
- Are all burners installed in your region, post 1 September 2005, compliant with the wood burner design standard?
- Have you undertaken any enforcement action in relation to the design standards?
- Is there other information relevant to the design standards (eg, details of liaison with territorial authorities to facilitate implementation of the wood burner standard, rules in regional plan more stringent than wood burner standard, etc)?
- What barriers, if any, exist to efficient enforcement of the design standards?
- What, if anything, could the Ministry do to assist with effective enforcement of the design standards?
- In your view, are the design standards for wood burners effective?
- In your view, are the design standards for landfills effective?

2.2.3 Monitoring

- Which areas do you consider likely to exceed the ambient standards?
- Are these areas being monitored in accordance with the methods specified in the regulations?

[10] Crematoria and incinerator at Paritutu exempt.

- What parameters are currently being monitored in your airsheds and what is the frequency of monitoring?
- How are monitoring results reported (eg, council website, annual monitoring report, periodic reports) and when are they available to the public?
- What is your overall assessment of the monitoring data (excellent, good, fair, poor)?
- Is there other information relevant to the NES monitoring requirements (eg, monitoring and quality assurance being carried out in accordance with *The Good Practice Guide for Air Quality Monitoring and Data Management*, independent audit of monitoring carried out regularly)?
- What barriers, if any, exist to fulfilling the monitoring requirements of the regulations?
- What, if anything, could the Ministry do to assist with fulfilling the monitoring requirements of the regulations?

Note 1: Includes all five pollutants, not just PM_{10}.
Note 2: May require cross-reference to airshed designation (refer below).

2.2.4 Public notice

- Have any breaches of Schedule 1 of the regulations been measured in your region?
- If yes, were the breaches publicly notified?
- Is there other information relevant to the public notification provisions of the NES (eg, QA process to identify and document spurious data not being notified)?
- In your view, are the monitoring and public notification requirements of the NES effective?

Note 1: Breaches as opposed to exceedances
Note 2: May not necessarily be council monitoring data that is reported

2.2.5 Airshed designation

- Which areas in your region do you consider likely to exceed the ambient standards?
- Have these areas been gazetted as an airshed?
- Is there other information relevant to airsheds (eg, public consultation on boundaries of airsheds, limitations of monitoring data for areas likely to exceed, financial constraints for monitoring)?

The following section applies to only those councils with gazetted airsheds.

- What barriers, if any, exist to efficiently gazetting airsheds for your region?
- What, if anything, could the Ministry do to assist with gazetting airsheds for your region?
- Do the airsheds gazetted in your region align with the relevant provisions of your regional plan?
- Is there other information relevant to airshed gazettal (eg, changes in regional plans and impact on existing gazetted airsheds)?

2.2.6 Granting consents in accordance with section 17

- Since 1 September 2005 have you granted any consents for discharges of PM_{10} in an airshed with a straight-line path? If yes:
  - How was the significance, or otherwise, of the discharge established?
  - How have you considered the application in accordance with the straight line path?
  - How were offsets, if used, incorporated into the application?
  - Is there other information relevant to consent conditions (eg, monitoring conditions, requirement for 'continuous improvement' or 'best practice')?
- Since 1 September 2005 have you granted any consents for discharges of PM_{10} in an airshed, without a straight-line path, for which exceedances of the PM_{10} ambient standard have occurred, or are likely to have occurred? If yes:
  - How was the significance, or otherwise, of the discharge established?
  - How were offsets, if used, incorporated into the application?
  - Is there other information relevant to consent conditions (eg, monitoring conditions, requirement for 'continuous improvement' or 'best practice')?
- Since 1 September 2005 have you declined any consents for discharges of PM_{10} in an airshed with a straight-line path? If yes:
  - What was the basis for decline?
  - How was the significance, or otherwise, of the discharge established?
  - Is there other information relevant to the consent decline (eg, breaching provision of regional plan, breaching section 17 of NES)?
- In your view, are the NES restrictions on the granting of resource consents for discharges effective?

2.3 Action plans to compliance with ambient standards

This section reviews what is happening in each region with respect to air quality management.

For each airshed that exceeds, or is likely to exceed, the PM_{10} ambient standard:

- Do you have an action plan in place, or drafted, to achieve compliance with the ambient standards by September 2013?
- Do you think the plan will succeed?
- Does the action plan align with the relevant provisions of your existing regional plan?

For areas with an action plan in place but unlikely to meet PM_{10} standard:

- How does the plan address all elements of an air quality management framework; ie,. monitoring, emission inventories, predictive models, regulatory instruments (eg, proposed plan revisions), communication and strategy?
- What is the key risk to the success of this action plan?
- What barriers, if any, exist to the success of this action plan?

- Is there other information relevant to the success of this action plan (eg, council support/opposition to proposed initiatives, funding issues)?
- What, if anything, could the Ministry do to assist with achieving this action plan?

For areas with no action plan in place and unlikely to meet PM_{10} standard:

- Is there other information relevant to the decision not to prepare an action plan (eg, lack of industry in airshed under consideration, limited monitoring data, staff capacity issues)?
- What do you see as the key risk to the success of your plans/policies?
- What barriers, if any, exist to the success of your plans/policies?
- What, if anything, could the Ministry do to assist with achieving your plans/policies?

2.4 NES – general

This section addresses more general questions about the effectiveness, or otherwise, of the NES for air quality.

- What, if any, perverse incentives have been created by the introduction of the NES for air quality?
- Are you aware of any resource consents being 'brought forward' to avoid potential restrictions after 2013?
- What, if anything, could the Ministry do to assist with effective enforcement of the regulations?
- What barriers, if any, exist to the effectiveness of these regulations?
- What, if anything, could the Ministry do to assist with achieving this original intent of the regulations?
- What barriers, if any, exist to the successful implementation of the NES for air quality?

Appendix 2: Summary of interviews with all councils

Q2.1 Background and context

This section attempts to record key information for each region to assist with establishing a clear picture of air quality *management*, as opposed to air quality *regulation*.

- **What are the key air quality issues for your region?**

Council responses varied significantly in this section and are summarised individually below.

Auckland Regional Council:

Our biggest airshed (isthmus and four cities) has regular exceedances; - 7 exceedances and 6 breaches of PM_{10} in 2007 and 11 exceedances and 2 breaches of NO_2 in 2007.

Whilst the NO_2 breaches are primarily traffic related, the PM_{10} seems to be increasing every year and these are occurring at background residential sites.

Our second issue is that some of our other airsheds are likely to exceed in the future due to population growth (close to Kumeu, Pukekohe and actual exceedance in Orewa). In 2051 we expect 2.3 million people (up from 1.34 million in 2006). This equates to a jump from 430,000 to 860,000 households.

Environment Bay of Plenty:

Rotorua – PM_{10} from home heating. Very high number of exceedances (29 last year, 24 this year and only June) for a North Island town.

Environment Canterbury:

Primarily domestic heating related PM_{10} constrained airsheds. 80 – 95% in 7 gazetted areas (Rangiora – 89%; Kaiapoi – 94%; Christchurch - ~80%; Ashburton – 84%; Timaru – 95%).

Proposed Canterbury Natural Resources Regional Plan (NRRP) currently under appeal. This forms the basis for air quality management throughout the Canterbury region, including the provisions of stricter wood burner design and efficiency rule (1.0g/kg and 65% thermal efficiency for new wood burners throughout the region); and Christchurch contains specific tighter rule than elsewhere in Canterbury for domestic emissions.

Environment Southland:

5 exceedances measured in Invercargill using High Vol (nothing with BAM). Previously also measured < 5 exceedances per year in Gore.

Home heating is the primary source in all airsheds. Roughly 60:40 split coal and wood. Widespread installation of heat pumps is taking the 'shoulders off the season' (ie, PM_{10} emissions).

Environment Waikato:

Fine particulate – primarily from domestic home heating. 4 airsheds (Taupo, Tokoroa, Te Kuiti & Putaruru) with reasonably small population that all exceed the NES up to 10 times a year.

2004 monitoring for Tokoroa had one year with over 30 exceedances but this is not backed up by more current monitoring. Remains a question mark over this data.

One reasonably large population centre (Hamilton) that exceeds only a couple of times a year. Typically exceedance concentrations 60 – 70s (exception Taupo & Tokoroa previous data up to 80s).

Gisborne District Council:

We have PM_{10} data since 1992 (1 day in 6) from a site located at the airport which has shown no exceedances to date.

Overall, we do not see air quality as a priority issue for this region which is why we have limited monitoring data. We have two emissions inventories which reinforce this understanding.

Greater Wellington:

Unregulated domestic emissions causing occasional exceedances (by a narrow margin) of the PM_{10} standard in Masterton and Wainuiomata.

Hawke's Bay Regional Council:

PM_{10} well above NES, especially in Hastings, huge reductions needed (79%). Napier somewhat less but still significant (55% reduction needed).

Horizons Regional Council:

Our key source is domestic heating and key pollutant is PM_{10}.

We have gazetted two airsheds Taihape & Taumarunui based on winter-time monitoring using mini-vols (7-day sampling) in June/July 2001 which measured exceedances.

Marlborough District Council:

Domestic heating in Blenheim - require reduction in PM_{10} emissions in the Blenheim airshed is approximately 25%.

Rural burning of prunings and vegetation from vineyards and other sources.

Commencing monitoring in Picton this year – may be issue in future.

Nelson City Council:

Top 3 in NZ for air pollution, primarily domestic sources. Regional plan provisions operative and incorporates the national ambient air quality guidelines (including annual guidelines) and environmental indicators (actually have 66% regional target for the longer term (100% for medium term)). Plan now also includes NES and goes further – applies it to all solid fuels.

Northland Regional Council:

Key air quality issue is SO_2 in Marsden Point airshed and potentially PM_{10} in Whangarei. Concerns over lack of understanding of temporal and spatial variation within our airsheds. Not convinced current monitoring location picking up worst levels but not sure where we should be monitoring. Don't know what we don't know.

Notably there is a lack of political will to implement changes (eg, backyard burning took 2.5 years and 5 attempts). If we do face issues for Whangarei it's highly unlikely we have the political backing to achieve change to meet NES.

Otago Regional Council:

Lots of small airsheds with very high levels of exceedances. Primary source is domestic solid fuel combustion – includes coal, not just wood.

Extremely cold winters with harsh weather leads to fears over certainty of electricity supply. People don't believe heat pumps will work in the extreme cold. Housing stock is of poor quality (ie, poorly insulated, older, draughty and very large).

Taranaki Regional Council:

Taranaki has had no recorded exceedances for PM_{10} or any indication of exceedances of any of other the NES pollutants. Additional monitoring also gives no indication of any major changes in our key sources.

Tasman District Council:

PM_{10} in Richmond – primarily from home heating.

Perception issues setting up conflict scenario eg, horticultural and land clearance fires, Nelson Pine Industries industrial discharge – council is not being thought to act consistently. Submissions on notified boiler consent applications from people unhappy about not being allowed to have a burner.

West Coast Regional Council:

Our key issue is PM_{10} from domestic fires. Housing stock is of very poor quality.

Engagement with the community is a challenge for us – convincing people there is a problem and then what can be done about it. There is a strong history of people using coal (free in some cases) for heating of homes and water – historically this has been a cheap fuel but getting more expensive now.

NB: People need to heat overnight otherwise houses fall to very low temperatures. We do see a 7 am spike (not as strong as the evening one but definitely pronounced).

- **What other information relevant to air quality management in your region should be noted when undertaking a review of implementation of the NES for air quality in your region?**

Auckland Regional Council:

The ARC has invested approximately $2M running 60 monitors at 15 sites with a running cost of around $1.2M per year. We have the longest continuous monitoring record in New Zealand (back to the early sixties).

To generate the straight line path at an appropriate frequency we feel it necessary to review our regional emissions inventory annually. Previously we only reviewed it every 5 years. As a result most years we are making adjustments.

Auckland is unique in that it faces pressure not only from a large population but also that we have the highest exposure and health impacts in New Zealand. These arise from both domestic and vehicle sources. This means that exceedances occur randomly at any month of the year (not just winter). The implication is that we have to bring down our entire mass loading.

Environment Bay of Plenty:

High deprivation index for whole of Eastern Bay of Plenty (Rotorua, Whakatane). This contrasts with Tauranga which has a low deprivation index. (Socio-economic Profile of the People of the Bay of Plenty Region – Census 2001).

Urban/coastal split. Most exceedances occur inland despite significant residential coastal development.

Environment Canterbury:

Environment Canterbury is a national leader in wood burner regulation having developed most of the science and supporting policy (eg, wood burner authorisation process) to support effective air quality management. Clean Heat started well before either the NES or the EECA funded schemes. The NRRP was the framework within which all this happened.

Environment Canterbury has put extensive funding into training, developing and keeping excellent air quality technical skills. Environment Canterbury is considered a leader in regional air quality management.

Environment Southland:

Biggest issue is still equipment – accuracy.

Still getting our head around how to use the monitors, technical aspects of monitoring are a concern for us.

Environment Waikato:

Some communities have limited ability to fund retrofitting of clean heat and insulation (eg, Tokoroa and possibly Te Kuiti & Putaruru) due to high deprivation index. These communities are different to communities like Christchurch where you have large ratings base with both higher and middle incomes to draw from. This makes it hard for these communities to access EECA funding which requires matched funds. Environment Waikato has taken money

from our regional investment fund to get EECA funds for Tokoroa (and now Taupo & Te Kuiti).

Gisborne District Council:

Gisborne is a relatively large region (4th largest in land area in New Zealand) with a very small population (42,000).

Greater Wellington:

The cost of electricity in Masterton, one of the airsheds where the PM_{10} level is breached, is the highest in the region (and up with the highest nationally). As with our other non-complying airsheds, the residents in Masterton are mostly less affluent than elsewhere in the region.

Hawke's Bay Regional Council:

Deprivation index in Hawke's Bay urban areas lower than national average (the "wine country" image is misleading!); deprivation index particularly low in areas of highest emission density.

Horizons Regional Council:

Air quality does not receive high priority with our council. Our top four issues in the One Plan are water quality, water quantity, biodiversity and sustainable land use.

Horizons Regional Council covers a big region (incorporating 7 District Councils) with only 100,000 ratepayers. An air quality monitoring station costs around $80K which is 1% of our overall budget. Our annual budget for air quality is $60K of which $50K gets chewed up by monitoring.

Marlborough District Council:

Marlborough is quite a windy location, particularly in the spring and autumn. Blenheim experiences around 3 - 14 exceedances a year (2004 data the highest year to date, monitor thought to be located next to particularly smoky chimney).

Nelson City Council:

Monitoring record has proved difficult - not always had good long-term monitoring in all airsheds. Used to be 1 day in 3 with mobile partisol but no consistent, robust, record. Daily monitoring since 2001 in Airshed A has proved pivotal. Then the inventory. This is the secret to effective management of the airshed. Cannot have any good policy debate without good data.

Northland Regional Council:

Council considers 2013 'deadline' will be amended (ie, there is flexibility on this date). Also of the opinion that a government change will modify the standards to be more business friendly.

Otago Regional Council:

Overnight damp down feature (on older, non-NES compliant burners) important in our towns because if the fire goes out, the house freezes. This puts people off upgrading to cleaner burners.

Tasman District Council:

Resourcing issues for staff and funding. Most staff doing air quality as part of larger job.

Campaign monitoring in other areas indicates no problems (to date).

West Coast Regional Council:

EECA have indicated Reefton has a high deprivation index.

Coal is a form of currency on the west coast (and Reefton) – it is written into the miners contracts that they receive around 8 tonnes of coal per year.

Q2.2 Enforcement of regulations

This section focuses on the regulatory requirements of the NES for air quality.

Q2.2.1 Prohibited activity standards

- **Are you aware of any breaches in your region of the six bans that came into effect on 8 October 2004?**

Table A2.1: Identified breaches of the prohibited activity standards

Council	Landfill	Tyres	Bitumen	Coated Wire	Oil
Auckland					
Bay of Plenty		✓		✓	
Canterbury		✓		✓	
Gisborne		✓			
Hawke's Bay				✓	
Horizons		✓		✓	
Marlborough		✓		✓	✓
Nelson					
Northland		✓		✓	
Otago					
Southland	✓	✓	✓	✓	
Taranaki	✓	✓			
Tasman		✓			
Waikato				✓	
Wellington		✓		✓	
West Coast		✓			

Councils did not identify any breaches of the ban on new high temperature hazardous waste incinerators.

- **Have you undertaken any enforcement action in relation to the prohibited activity standards?**

Environment Bay of Plenty and Environment Southland indicated breaches of the prohibited activity standards in their regions but reported no enforcement action.

The remainder of councils issued 18 abatement notices and 81 infringement notices, and carried out two prosecutions. Notably, the Environment Waikato prosecution of a recidivist offender (who was already in prison) resulted in a six month jail term extension. This prosecution related to breach of the regional plan, however, and not the regulations.

The West Coast Regional Council was unique in using written formal warnings only.
The need to burn is either strongest in Marlborough and the Manawatu regions or the Marlborough District Council and Horizons Regional Council have the strictest approach to enforcement with 37 and 22 infringement notices respectively.

• Did you grant any consents for an incinerator at a school or hospital before 1 September 2006?

Ten councils granted consent for 71 incinerators at schools in their regions. Marlborough District Council has a consent for a hospital incinerator that was granted in 1998 and is due to expire 2033.

Table A2.2: Consents for school incinerators granted before 1 September 2006

Council	School Incinerators
Auckland	–
Bay of Plenty	4
Canterbury	1
Gisborne	8
Hawke's Bay	13
Horizons	16
Marlborough	1
Nelson	–
Northland	11
Otago	–
Southland	–
Taranaki	–
Tasman	–
Waikato	13
Wellington	–
West Coast	1
Total	**71**

Whilst conditions vary, a number of the school incinerators were little more than open drums.

From this limited review, Northland Regional Council appears to be the only council to have physically inspected all incinerators since granting consent. Northland further limited consent period for 3 – 5 years and indicated to applicants that renewal was unlikely.

- **Is there other information relevant to the prohibited activity standards (eg, enforcement of regional plan provision that relates to a ban, monitoring of activities to ensure bans upheld)?**

The majority of councils indicated that the prohibited activity standards were mostly catered for under existing regional plan rules. A few indicated that enforcement had improved since the regulations came into force.

- **What barriers, if any, exist to efficient enforcement of the prohibited activity standards?**

All councils reported that enforcement was complaints driven. In the larger (and more rural) regions this can be problematic as noted by Horizons Regional Council:

> We have a very large region and can only respond to complaints – which can take time (and resources). Often by the time we get there either the fire has gone down or the wind has changed or it was a malicious complaint anyway. Also, finding out about the occurrence – if a farmer chucks a tyre on a fire we're not going to find out about it until much later.

- **What, if anything, could the Ministry do to assist with effective enforcement of the prohibited activity standards?**

The majority of councils felt that nothing further was needed from the Ministry.

Three councils (Environment Southland, Gisborne District Council and Horizons Regional Council) suggested preventative education would be useful. Two councils (Environment Canterbury and Marlborough District Council) suggested additional funding to assist with compliance and enforcement.

- **In your view, are the prohibited activity standards effective?**

The majority of councils indicated that yes, the prohibited activity standards were effective. Gisborne District Councils response was illuminating:

> Yes. Particularly for coated wire – we used to have an auto dismantler who used to do this in town in a 44 gallon drum. Every few months we used to get called out – since the NES came into force we've issued 1 abatement notice and he's stopped doing it. We also pointed out that it was now a national regulation and that we had stronger regulatory powers to prosecute.

Most councils also noted that the prohibited activity standards largely reflected existing provisions in the regional plans.

Q2.2.2 Design standards

- **Are all landfills in your region compliant with the landfill design standard?**

There are four large landfills not currently complying with the design standard. Councils indicated that two of these (Marlborough and Otago) are due to problems with engineering design.

Table A2.3: Landfill compliance with the design standard

Council	Complying	Non-Complying
Auckland	Redvale, Whitford, Rosedale, Greenmount	
Bay of Plenty	NA	
Canterbury	Kate Valley	
Gisborne	NA	
Hawke's Bay	Yes	
Horizons	Awapuni, Bonnie Glen	
Marlborough		1 landfill non-complying
Nelson	NA	
Northland	NA	
Otago		Green Island
Southland	Yes	
Taranaki	NA	
Tasman	NA	
Waikato	Tirohia, Hampton Downs	
Wellington	Southern, Spicers, Silverstream	Wainuiomata, Otaihunga
West Coast	NA	

Note: NA = not applicable.

- **Are all wood burners installed in your region, post 1 September 2005, compliant with the wood burner design standard?**

All unitary authorities responded positively.

The remainder of councils gave a mixed response to this question with some indicating yes and others unsure. The majority of councils had not liaised with their territorial authorities at all since the standards were introduced in 2004.

- **Have you undertaken any enforcement action in relation to the design standards?**

With two exceptions, no councils have undertaken any enforcement action in relation to the design standards. The exceptions are Environment Canterbury and Nelson City Council who partnered the Ministry in the national performance review of wood burners.

- **Is there other information relevant to the design standards (eg, details of liaison with territorial authorities to facilitate implementation of the wood burner standard, rules in regional plan more stringent than wood burner standard, etc)?**

The Auckland Regional Council indicated that there has been a significant breakdown in relationships between the council and territorial authorities. There is currently a royal commission of inquiry into Auckland governance.

Environment Canterbury was unique in reporting close liaison with territorial authorities over the implementation of the wood burner standard. Horizons Regional Council indicated they liaise with territorial authorities in their region and Otago Regional Council reported consultation with territorial authorities over proposed regional plan rule changes.

Both the West Coast Regional Council and Environment Southland noted that the wood burner standard was very unlikely to have had any impact in their regions because the majority of purchases were for multi-fuel burners.

- **What barriers, if any, exist to efficient enforcement of the design standards?**

There was a clear focus on the limitations of regional council enforcement when building consents are issued by territorial authorities.

One or two councils were unclear who is responsible for enforcement of the standards.

- **What, if anything, could the Ministry do to assist with effective enforcement of the design standards?**

There was strong support of the Ministry's national performance review of wood burners with requests for this to be repeated and/or extended. This was seen as more efficient than sixteen different councils attempting to stay in touch with wood burner manufacturers.

Councils were further supportive of the national authorised list. Environment Canterbury suggested that authorisation of burners be carried out at the national level (currently Environment Canterbury and Nelson City Council authorise burners on behalf of all other councils).

Several councils requested either a reporting requirement for territorial authorities to regional councils about wood burner installations or a link between the Building Code and the regulations.

- **In your view, are the design standards for wood burners effective?**

Nearly all councils viewed the design standards for wood burners as effective. However, most councils did not think the standards went far enough as they only applied to wood burners and did not affect key sources such as open fires and multi-fuel burners.

- **In your view, are the design standards for landfills effective?**

Seven councils responded in the affirmative, two councils did not respond and one didn't know. This question was not applicable to six councils.

Q2.2.3 Monitoring

- **Which areas do you consider likely to exceed the ambient standards?**

Councils identified a total of 39 airsheds likely to exceed the ambient standards (please refer to the table below).

- **Are these areas being monitored in accordance with the methods specified in the regulations?**

The majority of councils responded in the affirmative. Exceptions were five airsheds that are considered likely to exceed but aren't being monitored in accordance with the regulations. Of these five, only Taumarunui has been gazetted. These airsheds all have populations less than 6000.

Table A2.4: Monitoring of airsheds likely to exceed the ambient standards

Council	Airshed likely to exceed – monitored*	Airshed likely to exceed – not monitored*
Auckland	Auckland, Kumeu, Pukekohe	
Bay of Plenty	Rotorua	
Canterbury	Ashburton, Christchurch, Geraldine, Kaiapoi, Rangiora, Timaru, Waimate	Hanmer, Kaikoura, Temuka
Gisborne	–	
Hawke's Bay	Awatoto, Hastings, Napier, Whirinaki	
Horizons	–	Taumarunui
Marlborough	Blenheim	
Nelson	Nelson A, Nelson B	
Northland	Marsden Point, Whangarei	
Otago**	Airsheds 1, 2 and 3 with monitoring carried out in: Alexandra, Arrowtown, Clyde, Cromwell, Dunedin, Milton, Mosgiel, Ranfurly and Oamaru.	
Southland	Gore, Invercargill	Winton
Taranaki	–	
Tasman	Richmond	
Waikato	Hamilton, Putaruru, Taupo, Te Kuiti, Tokoroa	
Wellington	Wairarapa, Wainuiomata	
West Coast	Reefton	

* In accordance with Schedule 2 of the regulations.

** Otago airsheds were gazetted collectively as Airsheds 1, 2 and 3. Monitoring need only be carried out in 1 area of these airsheds to satisfy the regulations. In reality, the following areas are also considered likely to exceed but are not being monitored continuously: Balclutha, Palmerston and South Dunedin.

- **What parameters are currently being monitored in your airsheds and what is the frequency of monitoring?**

All councils are monitoring for PM_{10} continuously in accordance with the regulations in most areas that are likely to exceed.[11] Auckland Regional Council and Environment Canterbury have the most extensive monitoring networks in the country with a significant historical record.

A number of councils are further undertaking co-located monitoring (ie, monitoring of PM_{10} using different monitoring methods in the same location). This includes Auckland Regional Council, Environment Canterbury, Environment Waikato, Environment Southland and Northland Regional Council.

- **How are monitoring results reported (eg, council website, annual monitoring report, periodic reports) and when are they available to the public?**

A significant number of councils have live reporting to the internet for their monitoring data. This includes the following airsheds:

- Environment Bay of Plenty: Tauranga, Rotorua, Whakatane
- Environment Canterbury: Rangiora, Kaiapoi, Christchurch, Ashburton, Timaru, Waimate, Geraldine
- Environment Southland: Invercargill, Gore
- Environment Waikato: Te Kuiti, Tokoroa, Taupo, Hamilton, Putaruru
- Greater Wellington: central Wellington, Lower Hutt, Upper Hutt, Wainuiomata, Tawa, Karori, Masterton
- Otago Regional Council: Alexandra, Clyde, Cromwell, Arrowtown, Ranfurly, Central Dunedin, Mosgiel, Milton
- West Coast Regional Council: Reefton

Environment Southland further reports daily to local television and radio.

All councils report at least annually to the public with most also providing state of the environment reports periodically (typically five-yearly). Auckland Regional Council have produced a CD with all monitoring data to date (1964 – 2006).

Environment Canterbury and Otago Regional Council further provide weekly updates via email to interested stakeholders.

- **What is your overall assessment of the monitoring data (excellent, good, fair, poor)?**

The majority of councils rate their monitoring as either excellent or good. Two councils, Hawke's Bay and Northland Regional Council, assessed monitoring as fair with Northland citing staff resourcing being a problem.

[11] Except Taranaki Regional Council who consider no areas likely to exceed in their region.

- **Is there other information relevant to the NES monitoring requirements (eg, monitoring and quality assurance being carried out in accordance with The *Good Practice Guide for Air Quality Monitoring and Data Management*, independent audit of monitoring carried out regularly).**

Whilst all councils carry out some form of quality assurance and data validation on their ambient air quality monitoring data, few hold accreditation and approaches vary. Most councils monitor in accordance with the Ministry *Good Practice Guide for Air Quality Monitoring and Data Management* and several are carrying out co-located monitoring.

Five councils carry out external audits regularly (Auckland Regional Council, Environment Bay of Plenty, Environment Canterbury, Gisborne District Council and Tasman District Council).

Several councils indicated the importance of having a strategy for their monitoring programmes.

- **What barriers, if any, exist to fulfilling the monitoring requirements of the regulations?**

Funding. Councils were unanimous on this point.

- **What, if anything, could the Ministry do to assist with fulfilling the monitoring requirements of the regulations?**

Several councils requested the Ministry specify minimum monitoring and reporting requirements.

There was strong support for the Ministry taking more of a leadership role with monitoring through the provision of annual audits and workshops to address issues such as differences between monitoring methods.

In particular, Greater Wellington noted:

> The lack of an overarching body with responsibility for ensuring that all monitoring is carried out in accordance with standard methods, best practice and is being undertaken at representative sites is a concern. Monitoring in accordance with a standard still allows plenty of wiggle room. Councils use different methods of data validation. For example some councils do not log values below 0 (a valid artefact of TEOM or BAM monitoring method, which if removed would positively bias the data). The whole issue of measurement uncertainty and gravimetric equivalency needs to be addressed nationally.
>
> Monitoring is critical to successful air quality management. Nationally it is important to be comparing apples with apples and currently this may not be happening. It is better to have no data than poor data. Monitoring is resource intensive (costly and time consuming) and throughout New Zealand technical expertise is thin on the ground.

Northland Regional Council further suggested:

> Would like to undertake independent audit of data collection and analysis against the GPG (once it's updated). Would like this to be a national initiative. Could start with a desktop assessment for some and then do a random number of field visits and assessments. Given the critical importance of this data both regionally and nationally, I consider that such an audit is necessary to ensure consistent data collection (ability to compare results between

Regions) and also to provide independent verification and confidence to RC/Central government in the data.

Environment Southland suggested the Ministry attend the Local Area Monitoring Environmental Officers' Meeting. (To date this forum has focused on hydrological monitoring).

Q2.2.4 Public notice

• Have any breaches of Schedule 1 of the regulations been measured in your region?

This question refers to breaches of the ambient standards since the regulations came into force in 2005.

All councils responded in the affirmative with the exception of Horizons Regional Council, Gisborne District Council, Northland Regional Council and Taranaki Regional Council.

• If yes, were the breaches publicly notified?

Generally, all breaches were notified. Three exceptions that were brought to the Ministry's attention are discussed below.

Environment Bay of Plenty measured breaches of the SO_2 standard in Mt Maunganui during the summer of 2005–2006. These exceedances were not picked up for a few months and were not publicly notified.

Environment Bay of Plenty's reasoning for not notifying these exceedances was due to a lack of confidence in the data (no multi-point calibration, no span checks, no check sheet record to understand what instrument was doing). Since then, two new monitors have been installed at different locations to investigate the source of the exceedance. Potential sources include Ballance fertiliser works, Hexion pine chemicals manufacture, and New Zealand Marine Oil Services (processing of waste marine fuels and burning of waste oil) as well as shipping. No further exceedances have, however, been recorded.

The monitoring data was used during the consent process as a prompt for more monitoring by Balance (fertiliser works). A new telemetry system means that any future exceedances would be notified to Environment Bay of Plenty immediately.

Six exceedances of the PM_{10} standard were measured by Ravensdown Fertiliser Cooperative Limited at Awatoto in Hawke's Bay during 2006. The monitoring data were provided during the consent process but were not publicly notified.

Marlborough District Council measured a breach of the PM_{10} standard (109 $\mu g/m^3$) in November 2007. Investigation after the event revealed the reason for the exceedance to be a BBQ close to the monitoring site. The exceedance was not publicly notified.

All councils agreed to copy the Ministry when breaches are publicly notified in future.

- **Is there other information relevant to the public notification provisions of the NES (eg, QA process to identify and document spurious data not being notified)?**

Auckland Regional Council requested the Ministry show leadership by providing clear guidance that all exceedances need to be publicly notified.

- **In your view, are the monitoring and public notification requirements of the NES effective?**

Five councils responded in the affirmative but most were non-committal. A number of councils commented on the limited readership of public notices and reported very little interest in exceedances reported to date.

An exception was Environment Southland who have fielded enquiries as a result of monitoring data supplied to regional television.

Q2.2.5 Airshed designation

- **Which areas in your region do you consider likely to exceed the ambient standards? Have these areas been gazetted as an airshed?**

Councils consider 39 airsheds likely to exceed the ambient standards. Six of these airsheds are not gazetted.

Table A2.5: Gazettal of airsheds likely to exceed the ambient standards

Council	Airshed likely to exceed – gazetted	Airshed likely to exceed – not gazetted
Auckland	Auckland, Kumeu, Pukekohe	
Bay of Plenty	Rotorua	
Canterbury	Ashburton, Christchurch, Geraldine, Kaiapoi, Rangiora, Timaru, Waimate	Hanmer, Kaikoura, Temuka
Gisborne	–	
Hawke's Bay	Hastings, Napier	Awatoto, Whirinaki
Horizons	Taumarunui	
Marlborough	Blenheim	
Nelson	Nelson A, Nelson B	
Northland	Marsden Point*, Whangarei	
Otago	Airshed 1, Airshed 2, Airshed 3**	
Southland	Invercargill, Gore	Winton
Taranaki	–	
Tasman	Richmond	
Waikato	Hamilton, Putaruru, Taupo, Te Kuiti, Tokoroa	
Wellington	Wairarapa, Upper Hutt	
West Coast	Reefton	

* Marsden Point is the only airshed in the country gazetted for sulphur dioxide.

** Otago airsheds were gazetted collectively as Airsheds 1, 2 and 3. The airsheds have since been notified collectively in a different order through a plan change as Air Zones 1 and 2.

- **Is there other information relevant to airsheds (eg, public consultation on boundaries of airsheds, limitations of monitoring data for areas likely to exceed, financial constraints for monitoring)?**

Environment Waikato has gazetted airsheds that are likely to exceed as well as areas that might exceed (based on monitoring data between 66 per cent and 100 per cent of the standard). Environment Waikato further carried out extensive public and industry consultation on all airsheds before finalising gazette notices.

Note from the Ministry for the Environment:

Following a request from Otago Regional Council, in December 2005 the Minister for the Environment gazetted four airsheds as follows:

Airshed 1: Alexandra, Clyde, Arrowtown, Cromwell, Roxburgh, Naseby, Ranfurly

Airshed 2: Mosgiel, Palmerston, Green Island, South Dunedin, Milton

Airshed 3: Oamaru, Balclutha, Central Dunedin, North Dunedin, Waikouaiti, Port Chalmers

Airshed 4: Kingston, Queenstown, Wanaka, Hawea.

In December 2007, however, Otago Regional Council adopted a proposed regional plan change that referred to 3 Air Zones as follows:

Air Zone 1: Alexandra, Arrowtown, Clyde and Crowmwell

Air Zone 2: Balclutha, Green Island, Dunedin, Hawea, Kingston, Milton, Mosgiel, Naseby, Oamaru, Palmerston, Port Chalmers, Queenstown, Ranfurly, Roxburgh, Waikouaiti, Wanaka

Air Zone 3: Whole of Otago excluding areas in Air Zones 1 and 2.

This policy in the proposed plan change is currently under appeal. Otago Regional Council has yet to request that the airsheds notified in 2005 be re-gazetted. Implementation of the regulations must, therefore, be judged against the gazetted airsheds (only).

The following section applies to only those councils with gazetted airsheds.

Note: This excludes Gisborne and Taranaki.

- **What barriers, if any, exist to efficiently gazetting airsheds for your region?**

Auckland Regional Council noted that the Greater Auckland airshed is based on the metropolitan urban limits (MULs). These MULs are under review, due to requests from territorial authorities, and are likely to require amending in future. This will necessitate a plan change and re-gazettal. Auckland noted that whilst necessary, this is not a particularly efficient process.

Otago Regional Council identified cost (approximately $5000 – 10,000) as a barrier to gazetting airsheds.

No other councils identified any barriers to gazetting airsheds.

- **What, if anything, could the Ministry do to assist with gazetting airsheds for your region?**

None identified.

- **Do the airsheds gazetted in your region align with the relevant provisions of your regional plan?**

Table A2.6: Alignment of gazetted sirsheds with regional plan provisions

Council	Airsheds aligned with regional plan	Airshed not aligned with regional plan
Auckland	✓	
Bay of Plenty		X
Canterbury	✓[1]	
Gisborne	NA	
Hawke's Bay		X
Horizons	✓[2]	
Marlborough		X
Nelson	✓	
Northland	✓[3]	X[4]
Otago		X
Southland		X
Taranaki	NA	
Tasman	✓	
Waikato		X
Wellington		X
West Coast		X

Notes:

1 Airsheds also aligned with district plans as far as practicable.

2 Proposed One Plan.

3 Marsden Point.

4 Whangarei, Kerikeri, Kaitaia and Dargaville.

NA = not applicable.

- **Is there other information relevant to airshed gazettal (eg, changes in regional plans and impact on existing gazetted airsheds)?**

Otago Regional Council stated the following:

> We don't need the legal exactness required by the NES for our regional management of burners or the consents of industry. We think this is an unnecessary administrative burden.

Q2.2.6 Granting consents in accordance with section 17

- **Since 1 September 2005 have you granted any consents for discharges of PM_{10} in an airshed with a straight-line path?**

Table A2.7: Consents granted in airsheds with straight-line path

Council	Airshed	Number of consents / details
Auckland	Auckland	1 / OI NZ glassworks (old NZ Glass)
Bay of Plenty	NA	
Canterbury	Christchurch	65
	Timaru	5
	Ashburton	3
	Rangiora	2
Gisborne	NA	
Hawke's Bay	NA	
Horizons	NA	
Marlborough	Blenheim	1 / Flight Timbers kiln and sawmill
Nelson	Nelson	4 / Kiwi Orchids, Bens Oil, Fulton Hogan asphalt plant, Sealords shellfish plant.
Northland	Whangarei	5 or 6
Otago	Not supplied	3
Southland	Not supplied	1 / School coal-fired boiler
Taranaki	NA	
Tasman	NA	
Waikato	Hamilton	6
	Putaruru	1
Wellington	NA	
West Coast	NA	

Note: NA = not applicable.

For consents granted since 2005 in an airshed with straight-line path:

- **How was the significance, or otherwise, of the discharge established?**

Auckland Regional Council:

NES reinforced by our regional plan so the legal interpretation of significant was not a key consideration in the consent decision. O-I New Zealand emissions actually only around 5% of the airshed discharge (42 tonnes/year PM_{10}, modelled maximum 22 $\mu g/m^3$ for 3 furnaces).

Environment Canterbury:

Fuel type, control equipment used, location in airshed, size relative to total airshed discharge, size relative to industry expansion allowance. This is in accordance with what the regional plan which allows for a 20% increase of industrial emissions of PM_{10} (ie, 2% per year).

Environment Southland:

Concentration not significantly increased as demonstrated through modelling by consultant.
[No additional details provided.]

Environment Waikato:

Significance was established through querying the contribution in terms of impact. If contribution within the error bars of monitoring (ie, < 5 $\mu g/m^3$) then it was not considered significant. All plant considered to date have modelled maximum PM_{10} less than 5 $\mu g/m^3$ so not considered significant.

Marlborough District Council:

A combination of total emission load contribution to the airshed (approx. 4%) and modelling to show ground level concentrations (up to 15% of the NES). Also looked at in terms of operation vs worst case pollution days etc.

Hearing decided it was 'significant' and consent only granted for 5 years with conditions.

Nelson City Council:

The consent activity criteria in the Air Quality Plan were used to determine significance ie, the rule thresholds set in the Plan were based on modelling done by NIWA to determine if the impact of a discharge on the airshed was insignificant (and therefore permitted). Anything else was considered significant and, now the NES is in place, needs to be assessed under the NES.

Northland Regional Council:

We looked at the % of the total discharge into the airshed.

We looked at the % difference between in peak ambient concentrations with and without the plant.

All discharges under consideration were < 10% (3-6%) and on that basis were not considered significant.

Otago Regional Council:

Existing activities granted consent on basis of 3 year grace period for ongoing discharge. After this time, upgrade to baghouse required. Significance not established (industry only 10% in whole airshed).

(Approach would have been different if new discharge).

For consents granted since 2005 in an airshed with straight-line path:

- **How have you considered the application in accordance with the straight-line path?**

Auckland Regional Council:

We required a reduction strategy of 15% over current levels (and absorbing projected increased activity).

Electrostatic precipitators to be phased in over next 6 years to achieve this.

Environment Canterbury:

Used above definition of significance and no industrial consents met that criteria so no further consideration was needed.

Environment Southland:

NA – significance threshold not exceeded.

Environment Waikato:

NA – significance threshold not exceeded.

Marlborough District Council:

The application was considered as part of current emissions as the 7 MW has been operating since approx 2004. Currently Blenheim is compliant with its straight line path and emissions from Flight Timbers are already part of emissions that are being assessed against the straight line path.

Nelson City Council:

Yes – judged not that was unlikely to cause air quality to exceed the straight line path.

Northland Regional Council:

We looked at the monitoring data and it clearly demonstrates that we were under the NES for the year under consideration. We then attempted to account for meteorological variation by looking at % of calms and air temperature in previous years and compared that with the year where the monitoring shows no problems.

No real difference, monitoring looks ok and real therefore, complies with straight line path at time of application.

NB: Our straight line path is all determined by home heating (not industry) which is showing a reduction over the years. (Think this is due (in part) to NES).

Otago Regional Council:

We haven't.

For consents granted since 2005 in an airshed with straight line path:

- **How were offsets, if used, incorporated into the application?**

Auckland Regional Council:

Offsets were not used.

We have had discussions on offsets with Fletchers for Tasman Insulation. (Fletchers owns 15 of top 30 emitters in the region). They want to mothball some old plants, expand newer plants and do a deal on some of the middle plants – ie, consider the plants' emissions as a whole.

For legal certainty probably best to do this through one consent for all sites. ARC interested in still requiring best practice for all sites (to 'offset' competitive concerns for other industries being required to upgrade).

Care needs to be taken that offsets used in this manner doesn't take up all the head space as this was supposed to be providing for new industry. Considering setting % limit on amount of free space attributed to one plant (do through Regional Policy Statement and subsequent iterations to regional plan).

Still in discussions.

Environment Canterbury:

Waimate dairy plant example (36 fires removed to allow new boiler) – conditions are attached (and offsets provision below) – see NZ Dairies Ltd (Waimate, Studholme) - CRC070222.1. Note that there is no condition re the 36 fires removed as the NES was not effective at that time as the dairy plant was not in the Waimate airshed. NZ Dairies Ltd did the conversions off their own back.

Environment Southland, Environment Waikato, Marlborough District Council, Nelson City Council, Northland Regional Council and Otago Regional Council:

Offsets not used.

For consents granted since 2005 in an airshed with straight-line path:

- **Is there other information relevant to consent conditions (eg, monitoring conditions, requirement for 'continuous improvement' or 'best practice')?**

Auckland Regional Council:

Our councils require zero net increase from Oct 2005 emissions on all major PM_{10} discharges / consent holders (current & future).

Current industry to reach best practice as soon as possible and to implement continuous improvement to maintain a 'headspace' for future growth.

We require regular review of international best practice for each industry with annual reporting to council.

Increased monitoring requirements (mass emission value on an annual basis) to report to council annually.

We require both concentration limits and annual mass emission limits to be met.

Environment Canterbury:

The global consent for SERFL includes conditions requiring in-house monitoring (real life testing) of 5 pellet fires, every five years.

Environment Southland:

Boiler emissions required to be checked. [No additional details provided.]

Environment Waikato:

Our policy where there is uncertainty or a lack of science and the cost of obtaining that science is prohibitive is to promote best practice. Eg, Higgins asphalt plant required to investigate best technology for process.

Marlborough District Council:

Monitoring conditions imposed, requirement to reduce emissions by approximately 20% by 2012. This was thought to be achievable under best practice and would not entail excessive cost.

Nelson City Council:

Consents in our region are largely driven by the requirements of the regional plan. The NES is only a back-stop. We have our own GPG for industry applicants based on reductions needed in our airsheds.

Northland Regional Council:

First, all stack monitoring for particulate as part of a resource consent condition was changed from TSP to PM_{10}. We no longer measure TSP.

We required a 30% reduction in particulate loading (kg/hr) from that originally applied for.

For the largest application (56 MW wood fired boilers for a sawmill) we required a further 25% reduction in PM_{10} emission rate by 1 Jan 2012.

Otago Regional Council:

Our approach with all industry is to require best practice for all future discharges (25 – 50 mg/m^3).

Tasman District Council:

[No consents granted but additional information provided below.]

Previously permitted boiler discharges in the airshed now require a consent under the regional plan as controlled activities. They have six months from June 2008 to apply. Tasman District Council is employing a student to help gather data on fuel use and operation to improve our emissions inventory data.

This includes schools. Council be talking to schools and HortNZ (who have been involved in the process all the way) to help the greenhouse growers through the process.

Rationale behind council 'helping' approach is that we need the data for air quality management of the whole airshed.

For consents granted since 2005 in an airshed with straight-line path:

- **Since 1 September 2005 have you granted any consents for discharges of PM_{10} in an airshed, without a straight-line path, for which exceedances of the PM_{10} ambient standard have occurred, or are likely to have occurred?**

Greater Wellington indicated that around 4 consents have been issued for industry in Masterton. [No additional details provided.]

Otago Regional Council indicated that a consent had been granted for a Fonterra cheese factory in Stirling. No monitoring data is available for Stirling but modelling indicated that exceedances (due to domestic sources) were likely. Consent was granted for 35 years with a requirement to upgrade in 3 years from 18 kg/hr to 2.5 kg/hr (25 – 50 mg/m^3).

Environment Canterbury was unsure about consent decisions in areas that may exceed but which are currently not monitored.

All other councils responded in the negative.

For consents granted in airsheds likely to exceed, without straight-line path:

- **How was the significance, or otherwise, of the discharge established?**

Greater Wellington:

We know from our receptor modelling work that around 80% of PM_{10} on high pollution nights in Masterton arises from domestic emissions, therefore industry is not usually considered significant in this context.

Airshed emissions inventories are another way of assessing significance (ie, industrial contribution very low compared to domestic). Therefore, it is straightforward to assess if you are looking at the airshed as a whole. More difficult to assess for near field effects – you may have local hot spots near the industry that are not reflected in the airshed monitoring station located some distance away in a residential area. This was done for Upper Hutt (currently not exceeding but close to it). Comparison with emissions inventory was not done for Masterton as inventory not prepared.

Otago Regional Council:

Significance not established.

- **How were offsets, if used, incorporated into the application?**

Offsets were not used in the consents discussed above.

- **Is there other information relevant to consent conditions (eg, monitoring conditions, requirement for 'continuous improvement' or 'best practice')?**

Greater Wellington:

No specific requirements for continuous improvement as such. Standard monitoring conditions regarding operating efficiency, stack testing, emission discharge rate, operations and maintenance manuals etc depending on scope and scale of discharge.

Otago Regional Council:

Emphasis on best practice. Review clauses in 35 year period.

Aside – not currently meeting new WHO level but will after 3 years.

- **Since 1 September 2005 have you declined any consents for discharges of PM_{10} in an airshed with a straight-line path?**

Northland Regional Council is the only council to have declined a consent during this period. The consent was for an application to burn waste oil in a bitumen plant.

Environment Southland indicated they have discouraged applications (for example, an application to burn demolition waste was told not to bother applying).

One council commented that it was highly unlikely a consent would ever be declined.

For consents declined in airshed with straight-line path:

- **What was the basis for decline?**

Northland Regional Council gave the following reasons for the decline:

- increase in PM_{10} emissions
- increase in acid gases
- increase in dioxin emissions
- increase in heavy metal discharges
- increase in variability of output of emissions (VOCs, SO_2, etc)
- could only guarantee used oil would comply with specifications 90% of time.

- **How was the significance, or otherwise, of the discharge established?**

Not relevant.

For all consents:

- **In your view, are the NES restrictions on the granting of resource consents of discharges effective.**

Council opinion was split.

Northland Regional Council viewed the restrictions as partly effective but was concerned at the inconsistent approach for different pollutants. Northland suggested the principal source threshold approach for NO_2, CO and ozone (regulation 20) be removed to be consistent with SO_2 (Regulation 21). Auckland Regional Council was similarly concerned over the regulations inconsistent approach to different pollutants and did not consider the restrictions effective.

Greater Wellington, Hawke's Bay Regional Council and Marlborough District Council considered the restrictions to be ineffective because they penalise industry who are not the main source of PM_{10} exceedances. Further, some airsheds with PM_{10} issues may not have consented industries (eg, Wainuiomata).

By contrast, Environment Southland, Gisborne District Council and Otago Regional Council considered the restrictions to be effective. Environment Bay of Plenty considered the restrictions were effective for SO_2.

Q2.3 Action plans for compliance

- **Do you have an action plan in place, or drafted, to achieve compliance with the PM_{10} standard by September 2013? Do you think the action plan will succeed?**

Table A2.8: Airsheds, existence of action plans and assessment of compliance

Council	Airshed with action plan in place, or drafted		Airshed with no action plan	
	Likely to comply	Unlikely to comply	Likely to comply	Unlikely to comply
Auckland				Auckland
Bay of Plenty	Rotorua[a]			
Canterbury [b]	Ashburton[a] Geraldine Rangiora Waimate	**Christchurch[a]** **Kaiapoi[a]** **Timaru[a]**		
Hawke's Bay [c]		**Hastings[a]** Napier		
Horizons			Taumarunui	
Marlborough			Blenheim	
Nelson	Nelson A[a] Nelson B			
Northland			Whangarei	
Otago	Airshed 1[a] Airshed 3	**Airshed 2 (Milton)[a]**		
Southland			Invercargill Gore	
Tasman	Richmond[a]			
Waikato			Hamilton Putaruru **Tokoroa[a]**	Te Kuiti Taupo
Wellington			Wainuiomata Upper Hutt	Masterton[d] (Wairarapa)
West Coast				**Reefton[a]**

[a] **Heavily over-allocated airshed.**

[b] Environment Canterbury advise they are taking a variety of measures to address air pollution in Timaru, including proposed plan changes, the Clean Heat project and a working party. The original interview did not define this as an action plan. Table A.2.8 has been amended to reflect this advice, but the original interview comments have not been updated and list Timaru as an airshed unlikely to comply.

[c] Hawke's Bay Regional Council notified a proposed plan change to achieve compliance with the ambient standards in December 2008, after this review was completed. Table A.2.8 has been amended to reflect this change, but the original interview comments have not been updated.

[d] Masterton (Wairarapa) airshed alternates annually between compliance and non-compliance with the PM_{10} standard. Greater Wellington considers that Masterton is unlikely to comply with the PM_{10} standard by 2013.

Councils further identified the following airsheds as likely to exceed the PM_{10} standard. Assessment of compliance by 2013 for these airsheds was not requested:

- Auckland: Orewa, Pukekohe, Kumeu
- Canterbury: Temuka, Hanmer, Kaikoura
- Hawke's Bay: Awatoto, Whirinaki
- Southland: Winton.

• Does the action plan align with the relevant provisions of your existing regional plan?

Six councils have action plans in place to meet the PM_{10} standard by 2013. Of these, five action plans align with the regional plan.

Note: The review did not address the content of action plans in detail.

Table A2.9: Alignment of action plans with regional plans

Council	Action plan aligned with regional plan	Action plan not aligned with regional plan / *other*
Auckland		*No action plan*
Bay of Plenty		X
Canterbury	✓[1]	X[2]
Gisborne	NA	
Hawke's Bay		*No action plan*
Horizons		*No action plan*
Marlborough		*No action plan*
Nelson	✓	
Northland	✓[3]	
Otago	✓[4]	
Southland		*No action plan*
Taranaki	NA	
Tasman	✓	
Waikato		*No action plan*
Wellington		*No action plan*
West Coast		*No action plan*

Notes:

1 Ashburton, Geraldine, Kaiapoi, Rangiora, Waimate.

2 Christchurch and Kaiapoi may require amendment, Timaru has no (specific) action plan.

3 Whangarei and Marsden Point – significant uncertainties surround other airsheds.

4 Milton may require amendment.

NA = not applicable.

Extensive information was provided by councils on a range of air quality initiatives in airsheds, some with action plans, some without. The following section summarises responses **from only those airsheds identified as unlikely to meet the PM_{10} standards by 2013.**

For areas with an action plan in place but unlikely to meet PM_{10} standard:

- **How does the plan address all elements of an air quality management framework; ie, monitoring, emission inventories, predictive models, regulatory instruments (eg, proposed plan revisions), communication and strategy?**

[This question applies to Environment Canterbury and Otago Regional Council.]

Environment Canterbury: Christchurch Airshed

NRRP (notified June 2002). Christchurch (currently subject to appeal) – prohibited activity for discharges from open fires and 15 year old 'non clean air approved' burners; exemptions for heritage buildings and in times of emergency power outage; no new solid fuel burners in new homes or homes without solid fuel; no wintertime outdoor burning; emission standards for large scale solid fuel burning devices.

Clean Heat Project has begun in February 2003.

Refer to Ecan website for monitoring data; emissions inventory; projections analysis done 3-yearly (in progress currently); annual home heating survey; annual monitoring reports and annual report on the LTCCP community outcomes which cover air quality. Also, Canesis modelling re trend for Christchurch shows a slight decrease in concentrations.

Environment Canterbury: Kaiapoi Airshed

Refer NRRP and Variation 12 of this. Kaiapoi (at hearing stage) – non-complying activity by 1 May 2010 or at point of sale if earlier for discharges from open fires and pre-2001 'non clean air approved' burners, and by 31 August 2013 or at point of sale if earlier for discharges from post-2001 'non clean air approved' burners; exemptions for heritage buildings and in times of emergency power outage; only pellet fires in new homes or homes without solid fuel; requirement to obtain resource consent (restricted discretionary activity) to demonstrate performance is still as good after 15 years of operation of 'clean air approved' burners; no wintertime outdoor burning; emission standards for large scale solid fuel burning devices.

Refer to Ecan website for monitoring data; emissions inventory; projections analysis done 3-yearly; annual monitoring reports and annual report on the LTCCP community outcomes which cover air quality.

Otago Regional Council: Airshed 2 – Milton

Proposed plan change in 2007, currently resolving 4 appeals.

Air Zone 2 proposed rules:

- All new burners must meet 1.5 g/kg in Air Zone 2.
- All existing burners can stay forever.

No emissions inventory for Milton. We do have home heating survey from the MfE (which includes Milton).

(Backyard burning effectively banned by requirement for being 50 m from boundary in current plan. Also cannot cause nuisance to neighbours).

NB: no assistance programme for air zone 2.

For areas with an action plan in place but unlikely to meet PM_{10} standard:

- **What is the key risk to the success of this action plan?**

[This question applies to Environment Canterbury and Otago Regional Council.]

Environment Canterbury: Christchurch and Kaiapoi Airsheds

Because the NRRP is such a slow process under the RMA – only now at Environment Court stage. If we need to undertake further variations this will take even longer.

Non-compliance with rules (eg, people still using their fires after phase-out date passed, people still burning outdoors).

Emission projections – are our assumptions correct. What if we have it wrong?

Otago Regional Council: Airshed 2 – Milton

Not as cold, not as extreme. Biggest risk is slowing of economy so that people no longer renovate (ie, slow down of natural attrition). We're relying on them to upgrade their burner.

- **What barriers, if any, exist to the success of this action plan?**

[This question applies to Environment Canterbury and Otago Regional Council.]

Environment Canterbury: Christchurch and Kaiapoi Airsheds

Not enough central government funding.

No certainty to central government funding.

Lack of public confidence in security of electricity supply and cost of electricity (and other fuels like gas and pellets) are barriers to change away from wood burning.

Speed of RMA processes in getting our plan operative.

Otago Regional Council: Airshed 2 – Milton

None.

For areas with an action plan in place but unlikely to meet PM_{10} standard:

- **Is there other information relevant to the success of this action plan (eg, council support/opposition to proposed initiatives, funding issues)?**

[This question applies to Environment Canterbury and Otago Regional Council.]

Environment Canterbury: Christchurch Airshed

Successful Clean Heat scheme established (we had a head start on the issue in Christchurch).

Commissioners recommending we do other further variations but these need to get through the appeals process first. Then we need to develop joint working processes with the city council.

Environment Canterbury: Kaiapoi Airshed

Clean Heat scheme established on 1 July 2008. Joint Working Group established with Waimakariri District Council and their community Boards. The proposals for the variation and Clean Heat approved by the Joint Working party and Waimakariri District Council supportive of action taken but need ongoing financial support for Clean Heat as this programme is a much limited version of that in Christchurch and if need to widen, much greater financial assistance is needed.

Otago Regional Council: Airshed 2 – Milton

Airshed 2: Palmerston, Mosgiel, Green Island, South Dunedin and Milton: No.

- **What, if anything, could the Ministry do to assist with achieving this action plan?**

[This question applies to Environment Canterbury and Otago Regional Council.]

Environment Canterbury: Christchurch and Kaiapoi Airsheds

Continue/increase EECA funding for retrofitting clean heat and insulation.

Change regulations to make it clear that if an airshed is breaching, consents can still be granted if an action plan is in place, and steps are being taken to reduce PM10 emissions (eg, European Union initiatives).

Ban solid fuel open fires in airsheds with exceedances of the ambient standards (existing and new) ie, prevent new ones being installed (easy) and require the removal of existing open fires (hard re enforcement).

Phase-out non-complying burners in airsheds with exceedances of the ambient standards.

National ban on outdoor burning in airsheds with exceedances of the ambient standards.
Improve the RMA/Building Act integration eg, ensure Territorial Authorities actively check compliance of wood burners before installation. But if the Building Code/Act changes, then nobody would be able to enforce the NES or authorise solid fuel burners as there would be no independent enforcement authority to do this (assuming the installers would then become the

'enforcers' as the Territorial Authorities would not have to undertake building consent inspections).

Otago Regional Council: Airshed 2 – Milton

Nothing.

For areas with no action plan in place and unlikely to meet PM_{10} standard:

- **Is there other information relevant to the decision not to prepare an action plan (eg, lack of industry in airshed under consideration, limited monitoring data, staff capacity issues)?**

[At time of interview, this question applied to Auckland Regional Council, Environment Canterbury, Environment Waikato, Hawke's Bay Regional Council, Greater Wellington and the West Coast Regional Council.]

Council responses to this question varied from extensive air quality management actions (Auckland Regional Council) to sparse details (Hawkes Bay Regional Council, West Coast Regional Council). Responses for those airsheds identified as not likely to meet the PM_{10} standard by 2013, with no action plan in place, are summarised below.

Auckland Regional Council: Auckland Airshed

We have policies and targets for reductions but we're still working on an implementation plan. Due to go to politicians in November 2008 with Regional Policy Statement. We anticipate, however, that the minute the Regional Policy Statement is notified we will be bogged down working on consultation and appeals. We have a strategy for the transport sector. This includes 7 priorities that we lobbied central govt on - 5 of which have since been adopted and the other 2 are in process.

The domestic sector requires a similar 58% reduction – but our emissions inventory isn't sufficiently robust for us to yet formulate a strategy. Council approved us spending a year doing the base science to give more justification for future policy. Policies to implement NES for domestic fires (ie, how to get 58% reduction) now being presented to council in March 2009 to coincide with Regional Policy Statement review.

Environment Canterbury: Timaru Airshed

Set up a Joint Working Party with Timaru District Council and currently going through process in consultation with the Timaru District Council in developing additional regulatory measures over and above what is currently in the Proposed NRRP and Clean Heat Project which begins from 1 July 2008.

Environment Waikato: Te Kuiti and Taupo Airsheds

For all the airsheds we have actual monitoring. We have emissions inventories to identify the key contributors (always home heating). Primary focus is therefore, on home heating.

We do not have an action plan per se for each airshed. We have, however, worked out how many burners in each non-compliant airshed, need to be replaced to achieve compliance with

the NES by 2013. Solutions tailored to each airshed and include rules, education and incentive schemes.

Plan to go to community with discussion document (Aug/Sept) outlining issues for all the airsheds and outlining options for solutions in each airshed.

This will feed into a plan change and then through LTCCP process we will go back to the community with an incentive scheme proposal.

Hawke's Bay Regional Council: Napier and Hastings Airsheds

Time, and to a lesser extent staff and financial resources, have been the main factor. Limited monitoring data and other information (airshed modelling, source apportionment for natural background sources, more detailed household wood burner data) at time NES introduced. This has taken 3-4 years to gather, so Council only just now in a position to proceed with developing policy responses.

Greater Wellington: Wairarapa (Masterton) Airshed

Up till now we have focussed our efforts on source apportionment work – to produce a scientifically defensible quantification of the sources of particulate pollution in our at-risk airsheds and the actual relative contribution of the sources (including natural sources) to ambient concentrations.

A major issue for us is that where exceedances are only by a narrow margin – the required emissions reductions could be within the margins of error for emissions inventories. Further, given our airsheds are only just out of compliance there is arguably less of a driver for us to achieve compliance.

West Coast Regional Council: Reefton Airshed

The lack of an action plan is related to lack of information on what is needed to achieve the NES. Currently calculating impact of various scenarios; eg,

- Removing all open fires; or
- Convert 50% of multi-fuels to NES compliant wood burners; or
- Convert 25% of multi-fuel burners to heat pump or gas.

It is worth noting that there are no real drivers, other than health, to meet the standard (ie, no industry in Reefton). Continuous monitoring in Reefton commenced in 2006.

For areas with no action plan in place and unlikely to meet PM_{10} standard:

- **What do you see as the key risk to the success of your plans/policies?**

[At time of interview, this question applied to Auckland Regional Council, Environment Canterbury, Environment Waikato, Hawke's Bay Regional Council, Greater Wellington and the West Coast Regional Council.]

Whilst all councils require reductions in home heating emissions, Auckland Regional Council is unique in also requiring reductions in vehicle emissions to meet the PM_{10} standard by 2013. A key risk for the Auckland Regional Council therefore, is the Ministry of Transport not delivering on proposed actions.

Both Auckland Regional Council and Environment Waikato identified political buy-in and the length of time for required plan processes as key risks to achieving the standards.

Environment Canterbury were concerned over the assumptions used for emission projections and the risk of those assumptions being wrong.

- **What barriers, if any, exist to the success of your plans/policies?**

[At time of interview, this question applied to Auckland Regional Council, Environment Canterbury, Environment Waikato, Hawke's Bay Regional Council, Greater Wellington and the West Coast Regional Council.]

Auckland Regional Council noted they had missed out on central government funding for loans to retrofit clean heat because the Council did not support matched funding.

Environment Canterbury identified a large number of barriers to achieving the PM_{10} standard in Timaru including:

- timing of regional plan processes (only now at the Environment Court stage of the proposed plan)
- non-compliance with rules
- not enough central government funding (for retrofit programmes)
- no certainty to central government funding
- lack of public confidence in security of electricity supply and cost of electricity (and other fuels like gas and pellets) are barriers to change away from wood burning.

- **What, if anything, could the Ministry do to assist with achieving your plan/policies.**

[At time of interview, this question applied to Auckland Regional Council, Environment Canterbury, Environment Waikato, Hawke's Bay Regional Council, Greater Wellington and the West Coast Regional Council.]

Auckland Regional Council, Environment Canterbury and Environment Waikato were unanimous in suggesting the Ministry amend the regulations to regulate and/or ban **new** solid-

fuel open fires, coal burners and multi-fuel burners in airsheds that exceed the PM_{10} standard. Environment Canterbury and Environment Waikato further requested that non-compliant burners be phased out by 2013.

Environment Canterbury requested further funding for clean heat retrofits under the EECA Clean Heat and EnergyWise programmes and a national ban on outdoor burning in airsheds exceeding the PM_{10} standard.

Environment Canterbury also requested the Ministry do the following:

> Change regulations to make it clear that if an airshed is breaching, consents can still be granted if an action plan is in place, and steps are being taken to reduce PM_{10} emissions (eg, European Union initiatives).

Note on compliance with other ambient standards

The Marsden Point airshed is unique in New Zealand being gazetted for sulphur dioxide (SO2).

Northland Regional Council ambient air quality monitoring indicates the airshed is currently complying with the SO2 ambient standard. Northland notes, however, that monitoring only began six months ago.

Northland Regional Council estimates there is a 60 – 70 per cent probability the Marsden Point airshed will continue to comply with the SO2 ambient standard. The 30 – 40 per cent uncertainty rests primarily on unplanned outages at the Marsden Point oil refinery. Such outages have historically contributed to breaches of the SO2 ambient standard.

Northland Regional Council has prepared the Marsden Point Strategic Air Quality Plan. The intent of this strategic plan is to plan for future industry in the SO2 constrained airshed.

Q2.4 NES – general

This section addresses more general questions about the effectiveness, or otherwise, of the NES for air quality.

• What, if any, perverse incentives have been created by the introduction of the NES for air quality?

The following perverse incentives were identified:

- anecdotal evidence points to an increase in multi-fuel burner installations
- assistance scheme experience indicates some people put off upgrading a burner or choose to install coal burners, multi-fuels or open fires if they can't find a compliant wood burner that they like (for aesthetic reasons)
- trend towards true greenfield sites for siting of new industry. For example, Goldpine proposed new sawmill in Ruakaka to be well away from other industrial areas.

The following **potential** perverse incentives were identified:

- manufacturers re-labelling wood burners as multi-fuels
- significant increase in domestic electricity consumption as people switch from wood burners to heat pumps may have adverse impacts
- increase in granting of long-term consents to avoid 2013 deadline.

As an aside, Northland Regional Council noted the following bonus from the introduction of the regulations:

> We are seeing some consultants (who blame the NES for everything) now recommending things that are already required under our air plan. Strengthening of push to best practice.

• Are you aware of any resource consents being 'brought forward' to avoid potential restrictions after 2013?

Environment Waikato:

Yes. Genesis (Huntly power station) looks likely.

A couple of asphalt plants in Hamilton due to expire in 2016 – not sure.

Most of the big Fonterra plants are due to expire before 2013 anyway and Kinleith due to expire 2023 so not affected.

Northland Regional Council:

Yes – one or two.

Golden Bay Cement (due 2011) lodging next month. Possibly due to climate change issues, also making changes to plant so combining all into one new consent application.

Carter Holt Harvey Whangarei sawmill applying 5 years early partly to address 2013 issues.

Tasman District Council:

Possibly – Nelson Pine considering applying in 2009 (consent declines 2011). This is being driven by expansion of Richmond towards the plant.

• What, if anything, could the Ministry do to assist with effective enforcement of the regulations?

Unfortunately, due to a design error in the protocol this question was only asked of three councils with the remainder focusing on improving enforcement of the prohibited activity standards and the design standards.

Environment Canterbury suggested we amend regulations so that councils could still grant consent to industry if there was action plan in place (even if the PM_{10} standard was exceeded).

Nelson City Council requested monitoring of consents or commissioning a good lawyer to review what's happening around the country. Nelson further expressed concern that case-law will only occur if somebody appeals – who appears for the people? Nelson further suggested training and/or debate for all council staff on issues like long term effects, concentration vs mass, interpretation of significance.

Tasman District Council had no suggestions.

• What barriers, if any, exist to the successful implementation of the NES for air quality?

All councils identified resourcing as a barrier to successful implementation, be it staffing or funding. Probably the most extreme example is Northland Regional Council who appear to be significantly understaffed:

> Only two of us to deal with all incidents (around 500 a year), all air plan changes, all resource consents (80 major industries in Northland including largest cement factory in New Zealand, only oil refinery), all State of the Environment monitoring and all reporting for an area 5.1% of New Zealand land size.

It should be noted, however, that Northland Regional Council anticipates meeting the ambient standards by 2013.

There was a common view that the regulations unfairly penalise industry when the key source is domestic heating. This was accompanied by a commonly held view that the regulations would be amended to remove/amend the 2013 deadline.

Councils further agreed that relationship difficulties with territorial authorities was hampering the success of implementing the wood burner standard.

A number of councils identified timing as a barrier to successfully implementing the regulations. This was largely due to the length of time required for regional plan changes.

A few councils further noted the problems inherent in regulating the domestic sector – that this was seen as nanny state interference.

Finally, Nelson City Council noted the importance of staff attitude towards implementation.

> Staff have ability to either make or break the regulations – it often comes down to attitude and trying to make it work. I'd like to see more willingness around the country to give the NES a chance to work. Staff can have a big influence on politicians and senior management through their advice, and if we are overly pessimistic that can get reflected in the political and management level. But if we are more proactive, and can-do, that instead can be reflected.

- **What, if anything, could the Ministry do to assist with achieving the original intent of the regulations?**

Council response was significantly varied. All answers are provided here in full.

Auckland Regional Council:

Ban open fires.

Require multi-fuels to meet NES.

Ban coal burners in airsheds exceeding the PM_{10} NES.

Ban any solid fuel combustion in new houses in airsheds exceeding the PM_{10} NES.

Give us control over sale of fuel.

Environment Bay of Plenty:

Include coal burners and open fires in the design standards (ie, close the back door) for new burners.

Keep monitoring performance of wood burner manufacturers.

Environment Canterbury:

Take out consequences for industry if action plan in place. Or increase number of allowable exceedances.

Put an annual average into Schedule 1 (and the regulations). This is supported by a population exposure approach to regulation (as opposed to current focus on short-term exposure over 24 hours). In other words, make it more explicit that we are regulating to improve long-term exposure.

MfE to undertake further analysis of $PM_{2.5}$ and exposure times (acute versus chronic) etc.

MfE to develop a real life standard test for solid fuel burners and put into the NES rather than rely on AS/NZS4012/4013 (is too costly for a single Council to do for national benefit in the long term).

Environment Southland:

Leaving aside the regulatory approach, we believe greater emphasis on financial incentives to improve home heating and doing stuff around fuel supply would yield better reductions in PM_{10}.

If there was a standard on new multi-fuels (ie, 1.5 g/kg which only 1 does to date) this would help but wouldn't solve the problem.

Ban on new open fires in airsheds exceeding NES, is an obvious big step in the right direction. We've generated an awareness in the general public and now we have a need for non-biased home heating advice for home owners who call us.

More networking with regional councils. Regional councils have a role of supporting Territorial Authorities – the Ministry has a role of supporting us. This should be done more frequently – NAQWG we only send one staff member. We get so much more out of you coming here than NAQWG – more regional support/presence. It also builds a more positive relationship between Environment Southland and MfE.

Environment Waikato:

Burners that meet the NES are around 50% better than pre-NES burners. It would be improved by having a test methodology that better reflects real life emissions as opposed to test laboratory conditions (ie, addresses emissions during start-up).

Would like multi-fuels to be included in the NES.

From a national perspective, open solid fuel fires should be phased out (we're doing this anyway).

Amend the regulations so that non-NES compliant burners cannot be operated past 2013 in airsheds that exceed the NES. ie, open fires, multi-fuels and old crappy wood burners.
Ban backyard burning in airsheds that exceed NES. We're considering making this non-complying (ie, need consent).

Industry is a non-player in all our airsheds. The consequences for non-compliance fall on the wrong sector. Good mechanism for focusing people's attention but this risks industry setting up in locations that are clean (ie, Matamata vs Tokoroa). This isn't fair as the reality is it would make very little difference to air quality in either town (but obvious big social impact through jobs).

Staff view is that we don't believe central government would allow industry to be declined after 2013 – particularly not for the big players.

Gisborne District Council:

Not much. It is up to us to enforce it really.

In the Gisborne region there is a lack of education (eg, ban on open burning of tyres).

Greater Wellington:

More integrated support is required from central government to address the issue of improving energy efficient housing through the Building Act.

Consider including ban on burning of treated timber (CCA), including LOSP (light organic solvent preservative) treated timber – both in open and in heating appliances, also would simplify process if included plastic as a another category for banned substance for burring.

Hawke's Bay Regional Council:

No response.

Horizons Regional Council:

Funding. Air quality in our region is not a priority.

Marlborough District Council:

Perhaps regulations or guidelines on urban backyard burning and outdoor burning.

Include multi-fuels in the design standards.

Nelson City Council:

Not sure – danger in picking the festering scab of a sore in trying to fix the regulations. Much rather have an imperfect regulation that is working okay-ish than risk losing gains to date.

Northland Regional Council:

The Ministry should amend the NES to address key issues consistently being faced by Regional Councils/Unitary Authorities.

Amend the NES to ban backyard burning in airsheds that exceed the PM10 standard.

Specify minimum, and mandatory, monitoring and reporting requirements.

Undertake national audits of data monitoring and analysis.

Amend the NES to include an annual PM_{10} standard.

Amend the NES to include a $PM_{2.5}$ standard (annual and 24 hr).

Identify additional funding streams to assist with implementation of the NES. (eg, amend NES so that industries pay a surcharge if in gazetted airshed that is exceeding standard).

We need a carrot to make up for central government telling local government what to do.

Otago Regional Council:

Include coal and multi-fuel burners in NES (ie, apply 1.5 g/kg to other fuels).

Link the building consent process to the NES. Require Territorial Authorities to provide information on building consents for burners to regional councils.

NES for industrial emissions.

Taranaki Regional Council:

Introduce a ban on backyard burning in all urban areas to eliminate dioxin emissions.

Work harder to get MoT to regulate vehicle emissions quicker.

Tasman District Council:

Review the wording of the NES for certainty and clarity.

Streamline process to help people get wood burners out of the airshed (ie, facilitate funding through EECA). (We appreciate the expertise and capacity of organisations like Energy Smart to deliver the complex EECA funded projects). Gives us longer to do it. 2013 not enough.

West Coast Regional Council:

Funding for implementation (ie, monitoring equipment, staff and research to determine scale of issue and appropriate response).

Appendix 3: Example public notices

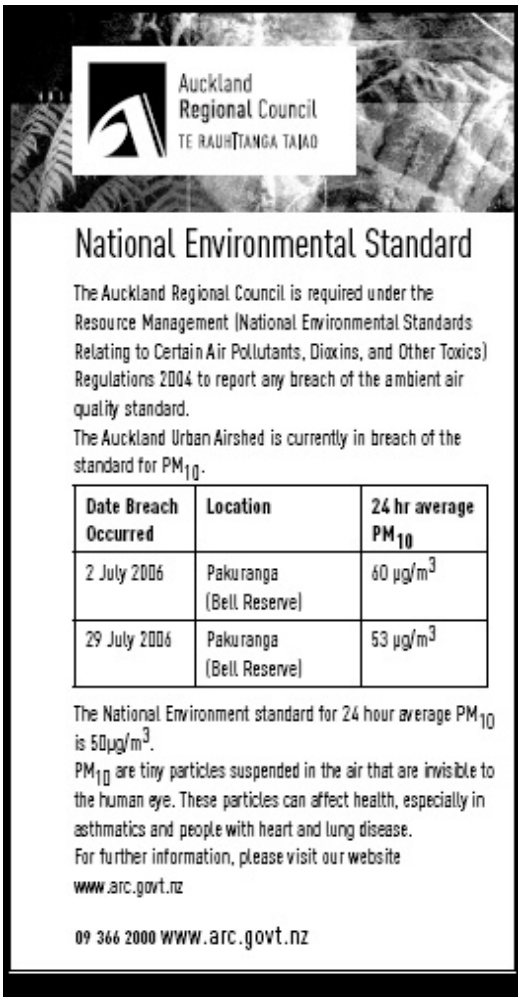
Auckland

National Environmental Standard

The Auckland Regional Council is required under the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004 to report any breach of the ambient air quality standard. The Auckland Urban Airshed is currently in breach of the standard for fine particles (PM10) and Nitrogen Dioxide (NO2).

Date Breach Occurred Location 24 hr average PM10
31 August 2007 Khyber Pass Rd (Newmarket) 52 µg/m3
The National Environmental Standard for 24 hour average PM10 is 50 µg/m^3.
PM10 are tiny particles suspended in the air that are invisible to the human eye. These particles can affect health, especially in asthmatics and people with heart and lung disease.

Date and Time Breach Occurred Location 1 hr average NO2
29 August 2007 10:00 am Queen St (CBD) 227 µg/m3
The National Environmental Standard for 1 hour average NO2 is 200 µg/m^3.
NO2 is a gas that can irritate the lungs, increase susceptibility to asthma, and lower resistance to infections such as the flu.
For further information, please visit our website www.arc.govt.nz



Environment Bay of Plenty

Yes – PM_{10} in Rotorua (see example below).

National Environmental Standard – Public notice

Environment Bay of Plenty is required under the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004 to report any breach of the ambient air quality standard.

Particulate matter (PM_{10}) concentration has exceeded the standard in the Rotorua Local Air Management Area.

The National Environment Standard for 24 hour PM_{10} is 50 $\mu g/m^3$

Location	Date	Concentration
Edmund Road, Rotorua.	01-Jun-08	82 $\mu g/m^3$
Edmund Road, Rotorua.	05-Jun-08	66 $\mu g/m^3$
Edmund Road, Rotorua.	06-Jun-08	95 $\mu g/m^3$
Edmund Road, Rotorua.	11-Jun-08	86 $\mu g/m^3$
Edmund Road, Rotorua.	12-Jun-08	91 $\mu g/m^3$
Edmund Road, Rotorua.	13-Jun-08	70 $\mu g/m^3$
Edmund Road, Rotorua.	14-Jun-08	67 $\mu g/m^3$
Edmund Road, Rotorua.	15-Jun-08	53 $\mu g/m^3$
Edmund Road, Rotorua.	19-Jun-08	79 $\mu g/m^3$
Edmund Road, Rotorua.	20-Jun-08	107 $\mu g/m^3$
Edmund Road, Rotorua.	21-Jun-08	58 $\mu g/m^3$

Bill Bayfield
Chief Executive

Environment Canterbury

The National Environmental Standard for Air Quality (NESAQ) threshold for PM_{10} (particles smaller than 10 microns in diameter) has been breached more than once in the Christchurch, Kaiapoi and Rangiora airsheds.

The NESAQ allows the PM_{10} threshold of 50 µg/m^3 (24-hour average concentration, reported from midnight to midnight) to be exceeded no more than once per year in each airshed. For the purpose of determining compliance of the NESAQ in Christchurch, only results from the St Albans monitoring site are taken into account. However, concentrations from all monitoring sites are reported in the following tables, if there has been an exceedence at any of the monitoring sites.

Since the beginning of 2008 to the end of June, there have been 14 exceedences of the PM_{10} threshold at the representative site for Christchurch in St Albans (9 in May, 5 in June), 14 in Kaiapoi (6 in May, 8 in June) and 5 in Rangiora (1 in May, 4 in June). Those exceedences occurring in June are reported in the following tables. Details of earlier exceedences were published on June 7.

24 hour average PM_{10} concentrations (µg/m^3)
Christchurch airshed*

Date occurred	St Albans*	Burnside*	Woolston*
4 June 2008	51	55	29
5 June 2008	44	45	52
6 June 2008	41	36	70
10 June 2008	55	55	80
11 June 2008	50	37	80
19 June 2008	51	47	103
20 June 2008	64	50	88
21 June 2008	45	53	35
25 June 2008	53	50	46

* Monitoring sites located in:
Coles Place, St Albans - dominated by residential emissions
Greers Road, Burnside - dominated by residential emissions
King Edward Terrace, Woolston - dominated by residential and industrial emissions

Date occurred	Kaiapoi airshed*	Rangiora airshed*
4 June	55	26
10 June	57	44
15 June	58	35
19 June	70	39
20 June	74	59
21 June	78	59
22 June	44	52
25 June	64	46
26 June	57	58

* Monitoring sites located in:
Peraki Street, Kaiapoi - dominated by residential emissions
Percival Street, Rangiora - dominated by residential emissions

Further information is available at: www.ecan.govt.nz/todaysair
Dr Bryan Jenkins
CHIEF EXECUTIVE

Environment Southland

National Environmental Standard – Public notice

Environment Southland (Southland Regional Council) is required under the Resource Management (National Environmental Standards (NES) Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004 to report any breach of the ambient air quality standard.

Particulate PM_{10} concentrations exceeded the standard during the months of May and June 2008 at the following locations:

Location	***Date***	***Concentration (µg/m3)***
Gore at Main Street	4/05/2008	65.8
Invercargill at Pomona	17/05/2008	64.4
Invercargill at Pomona	21/05/2008	95.8
Invercargill at Miller	21/05/2008	50.8
Invercargill at Pomona	29/05/2008	57
Invercargill at Pomona	2/06/2008	77.2
Invercargill at Pomona	20/06/2008	110
Invercargill at Miller	20/06/2008	54.4
Winton at Essex St	20/06/2008	73.9
Invercargill at Miller	30/06/2008	61.9
Gore at Main Street	30/06/2008	58.9
Invercargill at Pomona	30/06/2008	91.9

The National Environmental Standard for 24 hour PM_{10} is 50 $\mu g/m^3$.

One exceedence of the NES is allowed per year. There has been one exceedence of the NES in Winton on the 20 of June 2008; any further exceedances will breach the NES.

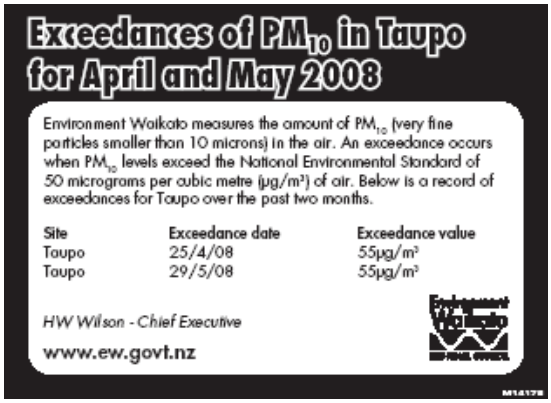
There have been two exceedences in Gore so far this year, with the highest reading being 65.8 micrograms per cubic metre of air on the 4th of May. The Gore airshed has breached the standard for Particulate $PM_{10.}$

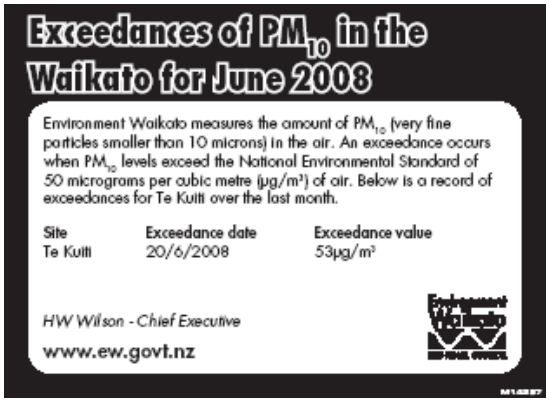
There has been nine exceedences in Invercargill so far this year, with the highest reading being 110 micrograms per cubic metre of air on 20th of June 2008 (Note: this exceedance was in part caused by a house fire). The Invercargill airshed has breached of the standard for Particulate $PM_{10.}$

More information on Air Quality can be found on our website www.es.govt.nz
Daily Air Quality Reports for Invercargill and Gore are provided at 5:30pm on CueTV and 6pm on Hokonui Radio.

Chris Arbuckle
Environmental Information Manager

Environment Waikato





Greater Wellington

Breach of the National Environmental Standard for Air Quality

The National Environmental Standard for Air Quality (NESAQ) threshold for PM_{10} (particles smaller than 10 microns in diameter) has been breached once in the Wairarapa airshed since 1 September 2005 as follows:

Wairarapa airshed:

Date occurred	**Wairarapa College**
2 July 2006	52 µg/m^3

The NESAQ allows the PM_{10} threshold of 50 µg/m^3 (24-hour average concentration, reported from midnight to midnight) to be exceeded no more than once per year in the airshed.

Further Information is available at:
www.gw.govt.nz/airquality

Marlborough District Council

Marlborough Express – Thursday Combined Advertisement

Icon Number	
Sub-heading	**Breach of Air Quality Standard for PM_{10} in the Blenheim Area**
Date of Advertisement	

Text of Advertisement

In accordance with regulation 16 of the Resource Management Act (National Environmental Standards relating to Certain Air Pollutants, Dioxins and Other Toxics) Regulations 2004, referred to as the NES, Marlborough District Council gives notice that the NES for PM_{10} has been breached in the Blenheim airshed in the year from 1 September 2007.

Date of Breach	**Location of Breach**	**PM_{10} ($\mu g\ m^{-3}$)**
13 May 2008	Redwoodtown	51
20 May 2008	Redwoodtown	56
10 June 2008	Redwoodtown	56

The Marlborough District Council monitors PM_{10} concentrations relative to the NES at air monitoring sites in Middle Renwick Road, Redwoodtown and Picton.

The NES for PM_{10} allows the threshold of 50 $\mu g\ m^{-3}$ to be exceeded on no more than one day per year. The first breach in Blenheim occurred on 13 May 2008. The NES has been breached on 3 occasions in Blenheim for the year from 1 September 2007.

More information can be found on our website www.marlborough.govt.nz

Nelson City Council

Public Notice pursuant the clause 16 of the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004, of Breach of National Environmental Standard for PM10

Nelson City Council herby gives notice that, PM10 concentrations exceeded a mean 24 hour concentration of 50 micrograms per cubic metre ($\mu g/m^3$) as specified in Schedule 1 of the above Regulations within the area gazetted as Air shed A: Nelson South and Air Shed B: Tahunanui-Stoke on the following occasions.

Day	24 hour mean PM10 Concentration Measured ($\mu g/m^3$)	Extent of PM10 Exceedence ($\mu g/m^3$)	Location at which Regulation was Breached
30-06-2008	56	6	Air shed A: St Vincent St
1-07-2008	61	11	Air shed A: St Vincent St
2-07-2008	54	4	Air shed A: St Vincent St
2-07-2008	51	1	Air shed B: Tahunanui-Stoke

Viesturs Altments
Chief Executive

Otago Regional Council

BREACH OF NATIONAL ENVIRONMENTAL

STANDARDS FOR AIR

The Otago Regional Council is required under the Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004 to report any breach of the ambient air quality standard.

The National Environmental Standard for 24 hour PM_{10} is 50 micrograms of particulate per cubic metre of air ($\mu g/m^3$). PM_{10} concentrations in June 2008 exceeded the standard as follows:

June 2008								
	Air Zone 1				Air Zone 2			
Date	**Alexandra**	**Arrowtown**	**Clyde**	**Cromwell**	**Dunedin**	**Milton**	**Mosgiel**	**Oamaru**
1	93.7	58.2	88.2	50.6				
2				55.3				
4	71.8							
5	98.9		58.7	84.6				
10	95.6	56.8	82.4					
11	90.6	88.3	62.0	73.4				
12	102.7		60.1		61.2	112.8	53.6	
13	105.1		60.1			74.9		
14	117.0		53.0			120.9		
15	73.8					86.5		
16						80.1		
18		63.5		90.2	52.1	83.2	51.1	
19	100.6		84.7	98.6	62.1	144.8	108.4	
20	100.2		89.7	101.9	70.3	86.7	76.7	51.4
21	112.1	52.8	68.7			137.4		53.8
22	57.2							
23	51.4							
25	51.1	50.6						
26	71.6					62.5		
27	80.8			50.1				
28	54.0							
29	88.8		56.5					
30	85.6	74.8	72.6	105.4		85.9		
Total	**20**	**7**	**12**	**9**	**4**	**11**	**4**	**2**

For more information, see our website www.orc.govt.nz

Matt Hickey
Manager Resource Science

Tasman District Council

Public Notice pursuant to Clause 16 of the Resource Management (National Environmental Standards Relation to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004, of Breach of National Environmental Standard for PM_{10}.

On this, the 18th day of June, 2008, Territorial Authoritiesman District Council hereby gives notice that, PM_{10} concentrations exceeded an average 24-hour concentration of 50 micrograms per cubic metre ($\mu g/m^3$) as specified in Schedule 1 of the above Regulations within the area gazetted as Richmond Air Shed and on the following **15** occasions:

Day	PM10 Concentration measured ($\mu g/m^3$)	Extent of PM10 Exceedence ($\mu g/m^3$)	Location at which Exceedence was Measured
May 28 2008	69.9	19.9	Richmond Central
May 29 2008	63.6	13.6	Richmond Central
May 30 2008	67.3	17.3	Richmond Central
May 31 2008	67.0	17	Richmond Central
June 1 2008	55.9	5.9	Richmond Central
June 5 2008	55.6	5.6	Richmond Central
June 6 2008	59.3	9.3	Richmond Central
June 10 2008	65.6	15.6	Richmond Central
June 11 2008	61.9	11.9	Richmond Central
June 12 2008	76.7	76.7	Richmond Central
June 13 2008	61.3	61.3	Richmond Central
June 14 2008	50.3	0.3	Richmond Central
June 15 2008	61.6	11.6	Richmond Central
June 18 2008	56.2	6.2	Richmond Central
June 19 2008	51.2	1.2	Richmond Central

The number of exceedences is higher for this time of year than any previous year. Look up http://www.Territorial Authoritiesman.govt.nz/index.php?Air for the most up-to-date information on air quality in Richmond and other historic monitoring in other Territorial Authoritiesman towns.

A new monitoring site is running in Richmond this winter only (started on June 2, 2008) and is located in Richmond South. The instrument at this site does not have a continuous real-time output as at the Richmond Central site. This means that there is a delay of weeks before results become available because the filters have to be analysed at a certified laboratory.

West Coast Regional Council

Breaches of air quality standard for PM_{10} in the Reefton airshed.

So far this winter Reefton has recorded 18 exceedences of the National Environmental Standard for PM $_{10.}$ An exceedence of the standard is any recording of 50ug/m^3 PM_{10} or more averaged over a 24 hour period. So far this winter the highest recorded value was 78ug/m^3 recorded on the 28th of May.

Date of Breach	Location of Breach	PM_{10} (µg m^{-3})
17-5-2008	Reefton	55
20-5-2008	Reefton	50
21-5-2008	Reefton	58
22-5-2008	Reefton	52
23-5-2008	Reefton	57
25-5-2008	Reefton	54
26-5-2008	Reefton	76
27-5-2008	Reefton	78
28-5-2008	Reefton	68
29-5-2008	Reefton	67
30-5-2008	Reefton	56
5-6-2008	Reefton	52
18-6-2008	Reefton	64
30-6-2008	Reefton	69
2-7-2008	Reefton	55
8-7-2008	Reefton	64
9-7-2008	Reefton	67
10-7-2008	Reefton	60

For more information on Air Quality please check the website http://www.wcrc.govt.nz/state_of_the_environment/air_quality/ or contact the Air Quality scientist at the regional council Stefan.Beaumont@wcrc.govt.nz