



## STAFF REPORT

**TO:** Environment & Planning Committee

**FROM:** Mary-Anne Baker, Policy Planner

**REFERENCE:** C301

**SUBJECT:** **AIR QUALITY MANAGEMENT - SUPPLEMENTARY REPORT - EP06/12/09** - Report prepared for 6 December Meeting

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### 1. INTRODUCTION

Variation 51 dealing with air quality management, particularly in Richmond, is to be notified for variation in January 2007. It covers a number of changes to the plan relating to improving air quality in the Richmond Airshed and avoiding adverse effects arising from the use of solid fuels in other settlements.

### 2. BURNING PLASTIC

Since the Council considered the variation, a national agrichemical container recovery programme has developed to a more definitive stage that would see the collection of agrichemical containers for recycling become a reality. The programme is called "Agrecovery" and it is expected that it will be launched in April 2007.

The Agrecovery Foundation, a non profit Trust, has been established to deal with the persistent and growing plastic waste problem being faced by farmers. The Foundation is a group of influential industry organisations and includes representatives from Federated Farmers, HortNZ, Agcarm Inc, Local Government NZ, and Fonterra.

The programme is to be funded by manufacturers who pay a levy (currently set at 13 cents per litre/kg of product) for the collection and recycling of containers used for their product. It is intended that the programme will eventually also collect silage wrap, but this part of the programme hasn't yet been finalised.

This Council is supporting the programme by providing space and staff resources at transfer stations. Agrecovery were proposing a single collections site, but Council will probably extend the service to cover all transfer stations. At this stage some of the details about location of collection points, opening hours and potential conflicts with existing plastic collection services still need to be confirmed.

#### 2.1 TRMP

When Council first notified the discharge to air provisions in the TRMP in 1998, there were few alternatives for landowners for the sustainable disposal of agrichemical containers. Common methods of disposal were farm dumps and burning as well as disposal to landfills. The Plan currently permits burning of agrichemical containers.

None of these methods is particularly sustainable, and burning waste materials is increasingly unsustainable, both in terms of resource use and air quality. Agrichemical containers fill valuable landfill space.

The proposed Variation 51 provides Council with an ideal opportunity to reconsider the status of burning agrichemical plastics as a permitted activity. This review is made necessary in order for the Council to support the Agrecovery programme, to reduce adverse effects of burning waste plastic and to encourage the recycling of plastic.

Removing the option of open burning of farm plastics means there is greater likelihood of success of “Agrecovery” at a local level. Costs of benefits of the two options are described in the table below.

One potential problem is that TDC contractor (StreetSmart) currently accepts a range of plastic for recycling, including triple-rinsed Agchem containers. The Agrecovery programme, however, insists that only eligible containers will be accepted (those for which the levy has been paid). The reason for this exclusion is to encourage all manufacturers to be part of the scheme and not be “free-riders”. This issue is being addressed by the Council’s Utilities Asset Engineer.

**Table 1; Costs and Benefits of TRMP variation**

Option	Costs	Benefits
<b>No change to TRMP</b>	<ul style="list-style-type: none"> <li>▪ Agrecovery programme success undermined.</li> <li>▪ Industry not encouraged to make sustainable waste management decisions.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Avoids contentious debate through plan change</li> <li>▪ Saves staff time</li> <li>▪ Continues to give farmers and growers more options for waste disposal</li> <li>▪ Existing plastic collection could continue to collect all plastics (not just those in the Agrecovery programme)</li> <li>▪</li> </ul>
<b>Change TRMP to prevent burning plastic</b>	<ul style="list-style-type: none"> <li>▪ Staff and administrative costs in making change</li> <li>▪ Reduces options to farmers and growers for waste disposal</li> <li>▪ Adds to costs for farmers and growers as containers need to be transported to collection points.</li> <li>▪ Some plastic containers (from manufacturers not in the programme) would no longer be collected.</li> <li>▪ Contributes to zero waste objectives.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Supports Agrecovery programme and Agrecovery more likely to be successful</li> <li>▪ Plastics recycled</li> <li>▪ Avoids air discharge issues arising through outdoor burning</li> <li>▪ Viable alternative for waste management supported and means farmers /growers don't have to stockpile plastic on-farm.</li> <li>▪ Provides incentive for all manufacturers to be part of nationwide plastic recovery programme.</li> </ul>

### **3. PM<sub>10</sub> EMISSIONS**

National regulations have required a review of air management provisions to improve air quality in airsheds exceeding the national standards for ambient concentrations of PM<sub>10</sub>.

Proposed Variation 51 introduces a number of policies and rules dealing with PM<sub>10</sub> sources from industry. The regulations themselves contain a number of new provisions relating to resource consents for industry emissions.

Council has carried out two emission inventories to determine what PM<sub>10</sub> sources contribute to ambient concentrations. Computer modelling has linked known sources of PM<sub>10</sub> with ambient air concentrations of PM<sub>10</sub>. The issue is essentially one of airshed capacity – the local combinations of topography and climate means that only a certain amount of PM<sub>10</sub> can be discharged before breaching ambient air quality standards.

#### **3.1 Vehicle Emissions**

The 2005 emissions inventory shows that traffic sources of PM<sub>10</sub> contributed about 39 kilograms of PM<sub>10</sub> per day.

There were no specific projections data for Richmond, but a 23% reduction calculated for Nelson in 2001 was assumed to apply also to Richmond. This predicted decrease results from national initiatives to reduce tailpipe emissions. No additional management options for motor vehicle emissions are considered in the Council's strategy because of this and because the existing contribution is relatively small. There is also limited ability of territorial local authorities to implement more direct measures on vehicles under the RMA.

However, these assumptions may have to be revisited when the Council repeats the emissions inventory as a recent emissions inventory for Nelson found that the emissions from vehicles have increased by 21%. The very small contribution made by vehicles in the Richmond airshed means this finding may not be hugely significant.

#### **3.2 Industrial Sources of PM<sub>10</sub>**

Around 59 kg of PM<sub>10</sub> per day are estimated to occur in Richmond as a result of emissions from industrial activities. This includes emissions from industrial activities such as wood processing, glasshouses and school boilers

The policy approach adopted by Council is to reduce industry emissions by 10%. This would be obtained through natural attrition (at least one industry has indicated that it will close down before 2013) and greater attention to best practice methods for reducing emissions.

#### **3.3 Home Heating Sources of PM<sub>10</sub>**

Domestic heating is the largest contributor at 496 kg per day. Most of the Council's management responses are aimed at reducing this amount.

### 3.4 Other Sources

The National Pollution Inventory indicates solid fuel burning in Hope is likely to generate around 48 kilograms of PM<sub>10</sub> per day although the data are not overly reliable as a result of the screening methodology used to estimate emissions. In comparison glasshouses, schools and other light industry on the outskirts of the Richmond North and Richmond South census area units emit around 90 kilograms per day based on a 2005 survey of fuel use carried out by TDC staff. The extent to which emissions from these sources contribute to PM<sub>10</sub> concentrations measured in the Richmond airshed will depend on the locations of individual discharges and factors such as wind speed and direction. At the moment, these sources are discounted from the analysis below because of these uncertainties.

## 4. ALLOCATION OF PM<sub>10</sub> DISCHARGES

The table below compares the amounts of PM<sub>10</sub> discharged in 2005 with the projected amounts in 2013 required to meet the air quality standards for PM<sub>10</sub>. It is based on the analysis of management options by Environet Ltd.

Source of PM <sub>10</sub>	Kg/day in 2005	Percentage decrease	Kg/day after 2013
Home heating	496	65%	186
Enclosed combustion sources (industry)	59	10%	53
Traffic	35.5	23%	27
<b>Total</b>	<b>591</b>	<b>55%</b>	<b>266</b>

The management option analysis shows the targets for 2013 can be met (albeit with effort!) with the range of strategies adopted by the Council.

A new regulatory regime has been proposed for industrial (enclosed combustion) sources of PM<sub>10</sub>.

Previously permitted activities will now require resource consents with smaller scale existing activities being controlled activities and all others being discretionary. Consultation with industry showed a high level of concern about the uncertainty and lack of clarity of this regime, both in terms of consent application costs and outcomes and on-going monitoring.

Comparable with the Council's use of allocation limits for water, the quantities given in the table above could be incorporated into the plan to help guide decision making for resource consent applications, and reduce uncertainty as to allocation of the capacity of Richmond Airshed to assimilate PM<sub>10</sub>. The table could be used as a guide to granting or declining applications to discharge industrial sources of PM<sub>10</sub> by taking into account

- sources of PM<sub>10</sub> existing in 2005
- management objectives for each of the sources (expressed as a percentage reduction in PM<sub>10</sub>)
- levels of PM<sub>10</sub> discharged by the various sector groups in 2013

A significant disadvantage in using these figures arises from the uncertainties surrounding collection and analysis of data and the actual link between emissions inventory data and PM<sub>10</sub> concentrations. The figures are indicative and subject to error.

In addition to this, while individual water takes can be easily metered and directly measured and are directly related to flows in rivers and aquifers, it is much more difficult to measure and monitor discharges of PM<sub>10</sub>.

Individual PM<sub>10</sub> emissions can be calculated from fuel use, but actual measurement is more complex and costly. The lack of direct relationship to the monitored ambient PM<sub>10</sub> concentrations is also an obstacle.

A further point of difference is the fact that the limit is linked to a certain date (September 2013). However, this serves as a target for managing emissions of PM<sub>10</sub> and not necessarily in conflict with the concept of allocation limits. In this case it is part of a strategy to deal with “over-allocation” of a resource, namely capacity of the airshed to assimilate PM<sub>10</sub>, by a specified date.

Notwithstanding these complications, the use of such an allocation mechanism would show the extent of the PM<sub>10</sub> problem for Richmond and provide a useful matter to consider in any application for consent. It establishes a quantum of PM<sub>10</sub> for each of the contributing sectors and an indication of where Council effort will go in order to meet the air quality standard. At any time in the future it may also provide the starting point for calculating possible offsets between new sources of PM<sub>10</sub> and opportunities for reductions from other sources.

It is suggested the best place for such a table is as a schedule and part of a matter in the rules which Council will take into account when considering relevant applications, rather than allocation limits for PM<sub>10</sub> in rule conditions.

## **5. RECOMMENDATIONS**

### **1. That the Committee make the following additional amendments to the TRMP as part of Variation 51.**

#### **A. Plastic Waste Management**

- (i) **Insert** at the end of 36.3.4A clause (k);

“This exception does not apply where a national or regional product stewardship programme has been established.”

- (ii) **Insert** at the end of 36.3.4A as a new note;

“Agrecovery” is an example of a national product stewardship programme for agricultural and horticultural chemicals.”

#### **B PM<sub>10</sub> Emissions**

- (iii) **Insert** into rule 36.3.9 as a new matter;

“The amount of PM<sub>10</sub> discharged into the Richmond Airshed (if applicable) on its own or in combination with other authorised discharges from enclosed combustion processes and the extent to which it exceeds the quantities specified in schedule 36.3A”

(iv) **Insert** at the end of section 36.3 the following new schedule;

**Schedule 36.3A: Discharges of PM<sub>10</sub> into the Richmond Airshed**

*Refer to Rules 36.3.9, 36.3.10 and 36.3.12 and 36.3.13*

The Council will take into account the following schedule when making decisions on any application involving the discharge of PM<sub>10</sub> into the Richmond Airshed.

The Council will aim to ensure that the amount of PM<sub>10</sub> being discharged on its own or in combination with other authorised discharges into the Richmond Airshed does not exceed the relevant allocation limit specified for 2013.

Schedule 36.3A: Allocation Limits for PM<sub>10</sub>

<b>Allocation Limits for the discharge of PM<sub>10</sub> into the Richmond Airshed</b>	
<b>Source of PM<sub>10</sub></b>	<b>PM<sub>10</sub> Allocation (kg/day)</b>
Home heating	174
Enclosed combustion sources (industry)	53
Vehicle emissions	27
Total	264

Mary-Anne Baker  
**Policy Planner**