

### 3.9 Air quality schedules ## 03-211 01 00

<b>338</b>	Transit New Zealand, Christchurch	Retain schedules as worded.
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#### Consideration

##### Submission 338

Submission 338 sought that '3.9 Air quality schedules' is retained as worded. Changes are recommended to this section of Chapter 3. Accordingly, it is recommended that this submission is accepted in part only.

#### Recommendation

##### Accept in part

Submission 338.

#### Amendment Required

None required.

### Schedule AQL1: Regional ambient air quality targets (RAAQT) ## 03-211 02 00 - 03-211 04 00 - 03-211 05 00

<b>8 (point 1)</b>	Primary Producers Co-Operative Society Ltd, Christchurch	Delete reference to the Regional Ambient Air Quality Target.
<b>8 (point 2)</b>	Primary Producers Co-Operative Society Ltd, Christchurch	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Regional Ambient Air Quality Target to only apply to urban airshed management, but not to individual discharges.
<b>8 (point 3)</b>	Primary Producers Co-Operative Society Ltd, Christchurch	Delete reference to the Ministry for the Environment Ambient Air Quality Guidelines.
<b>8 (point 4)</b>	Primary Producers Co-Operative Society Ltd, Christchurch	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Ministry for the Environment Ambient Air Quality Guidelines to only apply to urban airshed management, not to individual discharges.

<b>201</b>	Ministry For The Environment	Amend to refer to the revised 2002 Ambient Air Quality Guidelines.
<b>285 (point 1)</b>	Alliance Group Ltd	Delete reference to the Regional Ambient Air Quality Target.
<b>285 (point 2)</b>	Alliance Group Ltd	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Regional Ambient Air Quality Target to only apply to urban airshed management, but not to individual discharges.
<b>285 (point 3)</b>	Alliance Group Ltd	Delete reference to the Ministry for the Environment Ambient Air Quality Guidelines.
<b>285 (point 4)</b>	Alliance Group Ltd	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Ministry for the Environment Ambient Air Quality Guidelines to only apply to urban airshed management, not to individual discharges.
<b>338</b>	Transit New Zealand, Christchurch	Retain Schedule AQL 1 as worded.
<b>391</b>	Carter Holt Harvey Panels MDF Ltd	Amend so that the Proposed Ambient Air Quality Guidelines 2000 are not used - they should be as guidelines, not as set standards on which rules are based. Make any other consequential amendments to the Plan.
<b>411 (point 1)</b>	NZMP	Delete reference to the Regional Ambient Air Quality Target.
<b>411 (point 2)</b>	NZMP	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Regional Ambient Air Quality Target to only apply to urban airshed management, but not to individual discharges.
<b>411 (point 3)</b>	NZMP	Delete reference to the Ministry for the Environment Ambient Air Quality Guidelines.

<b>411 (point 4)</b>	NZMP	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Ministry for the Environment Ambient Air Quality Guidelines to only apply to urban airshed management, not to individual discharges.
<b>416 (point 1)</b>	NZMP	Delete reference to the Regional Ambient Air Quality Target. Make other changes necessary to give effect to this submission.
<b>416 (point 2)</b>	NZMP	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Regional Ambient Air Quality Target to only apply to urban airshed management, but not to individual discharges. Make other changes necessary to give effect to this submission.
<b>416 (point 3)</b>	NZMP	Delete reference to the Ministry for the Environment Ambient Air Quality Guidelines. Make other changes necessary to give effect to this submission.
<b>416 (point 4)</b>	NZMP	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Ministry for the Environment Ambient Air Quality Guidelines to only apply to urban airshed management, not to individual discharges. Make other changes necessary to give effect to this submission.
<b>F435 (point 1)</b>	Tegel Foods Ltd	Support submission 8 (point 1).
<b>F435 (point 2)</b>	Tegel Foods Ltd	Support submission 391.
<b>F435 (point 3)</b>	Tegel Foods Ltd	Support submission 201.

## Consideration

Submission 8 (points 1, 2, 3 and 4), 285 (points 1, 2, 3 and 4), 411 (points 1, 2 3, and 4), 416 (points 1, 2, 3 and 4) and Further Submission F435 (point 1)

The substance of these submissions is considered in General Submissions ##03-000 00 00, 8, 411, 416; Objective AQL2(a) ## 03-026 30 00 – 03-026 31 00, 8(points 1 and 2), 285(points 1 and 2), 391(point 2), 411(points 1 and 2), 416(points 1 and 2), F275, pgs 102-105, and Objective AQL2(b) ## 03-026 33 00 – 03-026 34 00 0 -3-026 37 00, 8(points 1 and 2), 285(points 1 and 2), 411(points 1 and 2), 416(points 1 and 2) pg. 107). The analyses are relevant and are adopted.

The submitters sought that reference to the Regional Ambient Air Quality Targets (RAAQT) and National Ambient Air Quality Guidelines (NAAQG) should be deleted

In the Commissioners' view deleting reference to the RAAQT in Objective AQL2 would render it incomprehensible - the central focus in Objective AQL2(a) is the RAAQT. The submitters have not suggested an alternative. They do not seek that the policy itself be deleted, and indeed if Objective AQL2 was to be deleted, Policies AQL9, AQL10, AQL11 and AQL12 and the associated methods (including rules) would also need to be deleted. This would frustrate the NRRP and in the Commissioners' view this is clearly inappropriate.

The submitters also sought that NAAQG and RAAQT should only apply to urban air shed management and not to individual discharges. They consider that the RAAQT do not allow for differentiation between localised 'hotspot' impacts and more widely dispersed impacts.

Chapter 13, Issue 1, Objective 1 and Policy 1(a) of the Canterbury Regional Policy Statement (RPS) are as follows: -

*“Issue 1*

*Existing and potential health and nuisance effects of low ambient air quality in the urban and settled areas of Canterbury, particularly in Christchurch and Timaru.”*

*“Objective 1*

*Maintain or improve ambient air quality so that it is not a danger to people's health and safety, and reduce the nuisance effects of low ambient air quality.”*

*“Policy 1*

(a) *Set standards to maintain minimum ambient air quality in urban areas of Canterbury on concentrations of contaminants that cause adverse health and nuisance effects.*

(b) *...”*

Issue 1 in the RPS and Issue AQL2 in the NRRP relate to urban and settled areas. Objective AQL2 gives effect to Policy (a) in the RPS in that it refers to minimum ambient air quality standards, but it is also broader than Policy 1(a) because the standards apply to the whole region. The Commissioners do not think that this causes any difficulty. Objective AQL2 is not inconsistent with the RPS - in particular Objective 1. The NAAQG can be used in both urban and rural situations (see for example NAAQG Section 3.2.1 Where do the guideline values apply?, pg. 29, and the last paragraph on pg. 35 of the NAAQG). The expectation in the NAAQG is that the guidelines will be transformed into air quality targets after community consultation and based on local monitoring results (see for example NAAQG 5<sup>th</sup> paragraph on page 5 and the last paragraph on page 34). That is what ECan is trying to do. Objective AQL2 puts in place objectives for ambient air quality for the Canterbury Region. It relates to Issue AQL2. Issue AQL2 focuses on 'urban and settled areas'. In the Commissioners' view this is not inappropriate. What is being referred to is ambient air - not localised "hot spots".

At the heart of the submitters' concern is their view that the RAAQT should not be applied to individual discharges that lead to 'localised', as opposed to 'ambient', air quality effects. Objective AQL2 specifically refers only to ambient air. The definition of "ambient air" recommended by the Commissioners in Chapter 1 of the NRRP is in line with the definition of 'ambient air' in the NAAQG. Contaminated air discharged from a specific source is excluded from the definition of ambient air. Contaminated air from a single source would be treated as a localised adverse effect under Objective AQL1, until it is mixed with the ambient air. It is envisaged that this will apply to many industrial discharges of contaminants, although the Commissioners accept that there will be circumstances where an industrial activity has both localised and wider ambient air effects due to the location, size and nature of the discharge.

The Commissioners note that NES generally apply irrespective of location.

The submitters seek that reference to the NAAQG should be deleted.

Objective AQL2 seeks to maintain ambient air quality at the equivalent or better than the 'acceptable' RAAQT where the existing air is equivalent to or better than the target, and to improve ambient air quality to the 'acceptable' target where air quality is below the target. The RAAQT are set out in Schedule AQL1. Schedule 1 is derived from and refers to the NAAQG. If the Council must refer to the NAAQG, amendments are required to bring Schedule 1 in line with the revised NAAQG (May 2002). The Commissioners however consider that such reference is unnecessary and they have noted the view that the plan should avoid reference to external documents - see above; Chapter 3 - General Submissions ## 03-000 00 00, 201, F401 (point 2)). They adopt these comments.

This aside it is clear that in determining the appropriate RAAQT for Objective 2, Environment Canterbury has considered the NAAQG and adopted the approach there taken as a starting point. It applied the national Environmental Performance Indicators (EPI) programme categories (see Figure 3-2 in Chapter 3 p. 3-28) to the NAAQG. Following this, it focussed on the 'acceptable' category as defining the desired air quality state.

In summary, Environment Canterbury has used the NAAQG to set the RAAQT. This is supported by the NES. Both the NAAQG and the NES apply in both urban areas and at locations outside urban areas. Objective AQL2 follows this approach. It is not inconsistent with the RPS.

The ambient air quality standards in the NES took effect from 1 September 2005 (Regulation 2(2)).

It is recommended that submission 8 (points 1, 2, 3 and 4), 285 (points 1, 2, 3 and 4), 411 (points 1, 2, 3 and 4) and 416 (points 1, 2, 3 and 4), and further submission F435 (point 1) be rejected.

#### Submission 201 and Further Submission F435 (point 3)

The substance of these submissions is considered in Chapter 3 – General Submissions ##03-000 00 00, 201, F401 (point 2).

It was there noted that Chapter 3 refers to and takes material from different versions of the NAAQG. It also refers to the 'Proposed NAAQG', which the Commissioners were told is a reference to an earlier draft version of the NAAQG 2002. The problem is further compounded by the Resource Management (National Environmental Standards Relating to Certain Air Pollutant Dioxins and other Toxins) Regulations 2004. The Commissioners have recommended that the Regional Council needs to consider a variation to Chapter 3 to deal with this document. They recommend in the present context that Schedule 1, Primary Air Pollutants be amended to refer to the 2002 MfE Ambient Air Quality Guidelines.

#### Submission 391 and Further Submission F435 (point 2)

The substance of this submission is considered in Objective AQL2(a) ## 03-026 30 00 – 03-026 31 00, 8(points 1 and 2), 285(points 1 and 2), 391(point 2), 411(points 1 and 2), 416(points 1 and 2), F275, pgs 102-105). The consideration is repeated above. No change is recommended, and it is recommended that submission 391 and further submission 435 (point 2) be rejected.

#### Submission 338

Submission 338 sought that 'Schedule AQL1' is retained as worded. Changes are recommended to this schedule. Accordingly, it is recommended that this submission is accepted in part only.

### **Recommendation**

#### **Reject**

Submission 8 (points 1, 2, 3 and 4), 285 (points 1, 2, 3 and 4), 391, 411 (points 1, 2, 3, and 4), 416 (points 1, 2, 3 and 4) and Further Submission F435 (points 1 and 2).

#### **Accept in part**

Submission 338.

#### **Accept**

Submission 201, F435 (point 3).

**Amendment Required**

- Amend Schedule AQL1 p. 3-212 to refer to the same guidelines in the Ministry for the Environment's 2002 Ambient Air Quality Guidelines as follows:

**Primary air pollutants**

Contaminant	Regional Ambient Air Quality Targets (RAAQTs) – <u>Upper</u> <u>Thresholds</u>				Averaging Period	Preferred Techniques of Measurement
	Alert	Acceptable	Good	Excellent		
Carbon monoxide (CO)	30 mg/m <sup>3</sup> *	20 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	1-hour	AS3580.7.1 – 1992
	10 mg/m <sup>3</sup> *	7 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	1 mg/m <sup>3</sup>	8-hour	
Suspended Particulate (PM <sub>10</sub> )*	50 µg/m <sup>3</sup>	33 µg/m <sup>3</sup>	17 µg/m <sup>3</sup>	No target set	24-hour	AS3580.9.8 – 2001 TEOM® at 40°C  US 40 CFR Part 50, Appendix J
	<u>20 µg/m<sup>3</sup></u>	<u>13.2 µg/m<sup>3</sup></u>	<u>5.61 µg/m<sup>3</sup></u>	<u>No target set</u>	<u>Annual</u>	
Suspended Particulate (PM <sub>2.5</sub> )	<u>25 µg/m<sup>3</sup> **</u>	17 µg/m <sup>3</sup>	No target set	No target set	24-hour	TEOM at 40°C
Sulphur Dioxide (SO <sub>2</sub> )***	350 µg/m <sup>3</sup>	230 µg/m <sup>3</sup>	115 µg/m <sup>3</sup>	35 µg/m <sup>3</sup>	1-hour	AS3580.4.1 – 1990
	120 µg/m <sup>3</sup>	80 µg/m <sup>3</sup>	40 µg/m <sup>3</sup>	12 µg/m <sup>3</sup>	24-hour	
Nitrogen dioxide (NO <sub>2</sub> )	200 µg/m <sup>3</sup>	132 µg/m <sup>3</sup>	66 µg/m <sup>3</sup>	20 µg/m <sup>3</sup>	1-hour	AS3580.5.1 – 1993
	100 µg/m <sup>3</sup>	66 µg/m <sup>3</sup>	33 µg/m <sup>3</sup>	10 µg/m <sup>3</sup>	24-hour	
Ozone (O <sub>3</sub> )	150 µg/m <sup>3</sup>	100 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	1-hour	AS3580.6.1 – 1990
	100 µg/m <sup>3</sup>	66 µg/m <sup>3</sup>	33 µg/m <sup>3</sup>	10 µg/m <sup>3</sup>	8-hour	
Hydrogen sulphide (H <sub>2</sub> S)	7 µg/m <sup>3</sup>	No target set	No target set	No target set	1-hour	AS3580.4.1 – 1990, coupled with a H <sub>2</sub> S to SO <sub>2</sub> converter.
Lead (Pb) - content of PM <sub>10</sub>	0.2 µg/m <sup>3</sup>	0.13 µg/m <sup>3</sup>	0.06µg/m <sup>3</sup>	0.06µg/m <sup>3</sup>	3 month moving <u>average</u> , calculated monthly	US40 CFR Part 50, Appendix J US40 CFR Part 50, Appendix G

Notes: No exceedences of these targets are envisaged, except for PM<sub>10</sub> (refer Objective AQL3)

µg/m<sup>3</sup> is micrograms per cubic metre

mg/m<sup>3</sup> is milligrams per cubic metre

TEOM® is tapered element oscillating micro-balance technique of monitoring

\* ~~The NAAQG for CO is to be reviewed by the Ministry for the Environment by 2002.~~

Where a tapered elemental oscillating microbalance (TEOM<sup>®</sup>) is used to monitor PM<sub>10</sub> and PM<sub>2.5</sub>, another recommended monitoring method should be co-located at the site for at least one year to calculate an appropriate adjustment factor.

~~\*\* The NAAQG for PM<sub>2.5</sub> is proposed as an interim monitoring guideline. The Ministry for the Environment will consider developing a formal guideline value for PM<sub>2.5</sub> by 2004.~~

\*\*\* The sulphur dioxide values do not apply to sulphur acid mist

### Priority hazardous air pollutants

Contaminant	Regional Ambient Air Quality Standards (RAAQTs) – Upper Thresholds				Averaging Period	Preferred Techniques of Measurement
	Alert	Acceptable	Good	Excellent		
Benzene (year 2009 <del>2</del> )	10 µg/m <sup>3</sup>	6.66 µg/m <sup>3</sup>	3.33 µg/m <sup>3</sup>	1 µg/m <sup>3</sup>	Annual	USEPA method TO-1, or equivalent
Benzene (year 2010)	3.6 µg/m <sup>3</sup>	2.38 µg/m <sup>3</sup>	1.19 µg/m <sup>3</sup>	0.36 µg/m <sup>3</sup>	Annual	
1,3-Butadiene	2.4 µg/m <sup>3</sup>	1.58 µg/m <sup>3</sup>	0.79 µg/m <sup>3</sup>	0.24 µg/m <sup>3</sup>	Annual	
Formaldehyde	<del>45</del> 100 µg/m <sup>3</sup>	<del>40</del> 66 µg/m <sup>3</sup>	<del>5</del> 33 µg/m <sup>3</sup>	<del>4</del> 10 µg/m <sup>3</sup>	<del>Annual</del> 30 minutes	USEPA method TO-11A, or equivalent
Acetaldehyde	30 µg/m <sup>3</sup>	20 µg/m <sup>3</sup>	10 µg/m <sup>3</sup>	3 µg/m <sup>3</sup>	Annual	
Benzo(a)pyrene	0.0003 µg/m <sup>3</sup>	0.0002 µg/m <sup>3</sup>	0.00001 µg/m <sup>3</sup>	0.00003 µg/m <sup>3</sup>	Annual	USEPA method TO-13A
Mercury (inorganic)*	0.33 µg/m <sup>3</sup>	0.22 µg/m <sup>3</sup>	0.11 µg/m <sup>3</sup>	0.03 µg/m <sup>3</sup>	Annual	PM <sub>10</sub> sampling <u>in accordance with 40 CFR Part 50, Appendix J</u> , followed by analysis using atomic absorption spectroscopy or an equivalent method. <u>For Mercury – Method IO-5 (Sampling and Analysis for Vapour and particle Phase Mercury in Ambient Air Utilising Cold Vapour Atomic Fluorescence Spectrometry).</u>
Mercury (organic)*	0.13 µg/m <sup>3</sup>	0.09 µg/m <sup>3</sup>	0.04 µg/m <sup>3</sup>	0.01 µg/m <sup>3</sup>	Annual	
Chromium VI*	0.0011 µg/m <sup>3</sup>	0.0007 µg/m <sup>3</sup>	0.0004 µg/m <sup>3</sup>	0.0001 µg/m <sup>3</sup>	Annual	
Chromium (other forms)*	0.11 µg/m <sup>3</sup>	0.07 µg/m <sup>3</sup>	0.04 µg/m <sup>3</sup>	0.01 µg/m <sup>3</sup>	Annual	
Arsenic (inorganic)*	0.0055 µg/m <sup>3</sup>	0.0036 µg/m <sup>3</sup>	0.0018 µg/m <sup>3</sup>	0.0006 µg/m <sup>3</sup>	Annual	
Arsenic (arsine)*	0.055 µg/m <sup>3</sup>	0.036 µg/m <sup>3</sup>	0.018 µg/m <sup>3</sup>	0.006 µg/m <sup>3</sup>	Annual	

Notes: No exceedences of these targets are envisaged

$\mu\text{g}/\text{m}^3$  is micrograms per cubic metre

$\text{mg}/\text{m}^3$  is milligrams per cubic metre

\* The guideline values for metals are for inhalation exposure only; they do not include exposure from other routes such as ingestion. These other routes should be considered in assessments where appropriate.

**Primary air pollutants (table) ## 03-212 01 00 - 03-212 02 00**

<b>8 (point 1)</b>	Primary Producers Co-Operative Society Ltd, Christchurch	Delete reference to the Regional Ambient Air Quality Target.
<b>8 (point 2)</b>	Primary Producers Co-Operative Society Ltd, Christchurch	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Regional Ambient Air Quality Target to only apply to urban airshed management, but not to individual discharges.
<b>136</b>	Association For Independent Research (AIR)	Acknowledge the implications of volatile or semi-volatile organic matter, which is not routinely measured. No decision requested.
<b>285 (point 1)</b>	Alliance Group Ltd	Delete reference to the Regional Ambient Air Quality Target.
<b>285 (point 2)</b>	Alliance Group Ltd	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Regional Ambient Air Quality Target to only apply to urban airshed management, but not to individual discharges.
<b>411 (point 1)</b>	NZMP	Delete reference to the Regional Ambient Air Quality Target.
<b>411 (point 2)</b>	NZMP	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Regional Ambient Air Quality Target to only apply to urban airshed management, but not to individual discharges.
<b>416 (point 1)</b>	NZMP	Delete reference to the Regional Ambient Air Quality Target. Make other changes necessary to give effect to this submission.

<b>416 (point 2)</b>	NZMP	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Regional Ambient Air Quality Target to only apply to urban airshed management, but not to individual discharges. Make other changes necessary to give effect to this submission.
<b>F435</b>	Tegel Foods Ltd	Support submission 8 (point 1).

### Consideration

Submission 8 (points 1 and 2), 285 (points 1 and 2), 411 (points 1 and 2), 416 (points 1 and 2) and Further Submission F435

The substance of these submissions is considered above (see Schedule AQL1: Regional ambient air quality targets (RAAQT) ## 03-211 02 00 - 03-211 04 00 - 03-211 05 00, 8(points 1, 2, 3 and 4), 285(points 1, 2, 3 and 4), 411 (points 1, 2 3, and 4), 416 (points 1, 2, 3 and 4), F435(point 1)). The consideration is relevant here and has been adopted. The recommendation is the same – that no change is made. It is recommended that these submissions be rejected.

### Submission 136

Submission 136 sought that Environment Canterbury formally acknowledge the implications of the significant proportion of the particulate fraction that is volatile or semi-volatile organic matter. No change to Chapter 3 was sought and it is unclear why the acknowledgement was sought. No change is recommended by the Commissioners, and it is recommended that submission 136 be rejected.

### Recommendation

#### Reject

Submissions 8 (points 1 and 2), 285 (points 1 and 2), 136, 411 (points 1, and 2), 416 (points 1, and 2) and Further Submission F435.

#### Amendment Required

None required.

**Primary air pollutants (table) - Averaging period ## 03-212 02e01**

<b>201</b>	Ministry For The Environment	Add 'annual average' to the Averaging Period column for PM10.
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**Consideration**

Submission 201

Submission 201 sought that an annual average PM<sub>10</sub> target should be added to the 'Primary air pollutants' table.

This table is based on the National Ambient Air Quality Guideline 2002 (NAAQG). Within this guideline a PM<sub>10</sub> annual average target is set and it is recommended that this approach is followed in Chapter 3 as the NAAQG form the basis for the RAAQT to be derived. The long term health effects of exposure to PM<sub>10</sub>, is an area where work is being done internationally. However, it is noted that no such target is set in the NES. The change sought is recommended, and it is recommended that submission 201 be accepted.

**Recommendation**

**Accept**

Submission 201.

**Amendment Required**

Amend Schedule AQL1, Primary air pollutant table p. 3-212, by adding the following:

**Primary air pollutants**

Contaminant	Regional Ambient Air Quality Targets (RAAQTs) = <u>Upper Thresholds</u>				Averaging Period	Preferred Techniques of Measurement
	Alert	Acceptable	Good	Excellent		
...						
Suspended Particulate (PM <sub>10</sub> )*	50 µg/m <sup>3</sup> <u>20 µg/m<sup>3</sup></u>	33 µg/m <sup>3</sup> <u>13.2 µg/m<sup>3</sup></u>	17 µg/m <sup>3</sup> <u>5.61 µg/m<sup>3</sup></u>	No target set <u>No target set</u>	24-hour <u>Annual</u>	AS3580.9.8 – 2001 TEOM <sup>®</sup> at 40°C <u>US 40 CFR Part 50, Appendix J</u>
...						

**Second asterix point under "Notes" ## 03-212 10 00**

201	Ministry For The Environment	Delete 'NAAQG' and replace it with 'target'.
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**Consideration**

Submission 201

The substance of these submissions is considered above (see Schedule AQL1: Regional ambient air quality targets (RAAQT) ## 03-211 02 00 - 03-211 04 00 - 03-211 05 00, 201, F435(point 3)). The consideration is relevant here and has been adopted. The PM<sub>2.5</sub> measure has been dropped from the NAAQG. Accordingly, the justification for inclusion of this target in Chapter 3 is removed – Environment Canterbury has undertaken little work on PM<sub>2.5</sub>. The NESAQ does not set a PM<sub>2.5</sub> standard. Therefore, in part acceptance of this submission, it is recommended that the PM<sub>2.5</sub> target is deleted.

**Recommendation**

**Accept**

Submission 201.

**Amendment Required**

Amend Schedule AQL1, Primary air pollutant' table p. 3-212 as follows:

**Primary air pollutants**

Contaminant	Regional Ambient Air Quality Targets (RAAQTs) = <u>Upper Thresholds</u>				Averaging Period	Preferred Techniques of Measurement
	Alert	Acceptable	Good	Excellent		
...						
Suspended Particulate (PM <sub>2.5</sub> )	25 µg/m <sup>3</sup> **	17 µg/m <sup>3</sup>	No target set	No target set	24-hour	TEOM at 40°C
...						

...  
 \*\* The NAAQG for PM<sub>2.5</sub> is proposed as an interim monitoring guideline. The Ministry for the Environment will consider developing a formal guideline value for PM<sub>2.5</sub> by 2004.  
 ...

**Priority hazardous air pollutants (table) ## 03-213 02 00**

<b>8 (point 1)</b>	Primary Producers Co-Operative Society Ltd, Christchurch	Delete reference to the Regional Ambient Air Quality Target.
<b>8 (point 2)</b>	Primary Producers Co-Operative Society Ltd, Christchurch	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Regional Ambient Air Quality Target to only apply to urban airshed management, but not to individual discharges.
<b>285 (point 1)</b>	Alliance Group Ltd	Delete reference to the Regional Ambient Air Quality Target.
<b>285 (point 2)</b>	Alliance Group Ltd	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Regional Ambient Air Quality Target to only apply to urban airshed management, but not to individual discharges.
<b>411 (point 1)</b>	NZMP	Delete reference to the Regional Ambient Air Quality Target.
<b>411 (point 2)</b>	NZMP	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Regional Ambient Air Quality Target to only apply to urban airshed management, but not to individual discharges.
<b>416 (point 1)</b>	NZMP	Delete reference to the Regional Ambient Air Quality Target. Make other changes necessary to give effect to this submission.
<b>416 (point 2)</b>	NZMP	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Regional Ambient Air Quality Target to only apply to urban airshed management, but not to individual discharges. Make other changes necessary to give effect to this submission.
<b>F435</b>	Tegel Foods Ltd	Support submission 8 (point 1).

**Consideration**

Submission 8 (points 1 and 2), 285 (points 1 and 2), 411 (points 1 and 2), 416 (points 1 and 2) and Further Submission F435

The substance of these submissions is considered above (see Schedule AQL1: Regional ambient air quality targets (RAAQT) ## 03-211 02 00 - 03-211 04 00 - 03-211 05 00, 8(points 1, 2, 3 and 4), 285(points 1, 2, 3 and 4), 411 (points 1, 2 3, and 4), 416 (points 1, 2, 3 and 4), F435(point 1)). The consideration is relevant here and has been adopted. The recommendation is the same – that no change is made. It is recommended that these submissions be rejected.

**Recommendation**

**Reject**

Submissions 8 (points 1 and 2), 285 (points 1 and 2), 411 (points 1 and 2), 416 (points 1 and 2) and Further Submission F435.

**Amendment Required**

None required.

**Priority hazardous air pollutants (table) - "Alert" column for Formaldehyde ## 03-213 02b08**

201	Ministry For The Environment	Amend the value to 100.
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**Consideration**

Submission 201

The substance of this submission is considered above (see Schedule AQL1: Regional ambient air quality targets (RAAQT) ## 03-211 02 00 - 03-211 04 00 - 03-211 05 00, 201, F435 (point 3)).The consideration is relevant here and has been adopted. The recommendation is the same – that the change sought is made, and that submission 201 be accepted.

**Recommendation**

**Accept**

Submission 210.

**Amendment Required**

Amend Schedule AQL1, Priority hazardous air pollutants' table p. 3-213 as follows:

**Priority hazardous air pollutants**

Contaminant	Regional Ambient Air Quality Standards (RAAQTs) – Upper Thresholds				Averaging Period	Preferred Techniques of Measurement
	Alert	Acceptable	Good	Excellent		
...						
Formaldehyde	45 <del>100</del> µg/m <sup>3</sup>	40 <del>66</del> µg/m <sup>3</sup>	5 <del>33</del> µg/m <sup>3</sup>	4.5 <del>10</del> µg/m <sup>3</sup>	Annual <del>30</del> minutes	USEPA method TO-11A, or equivalent
...						

**Priority hazardous air pollutants (table) - "Acceptable" column for Formaldehyde  
## 03-213 02c08**

<b>201</b>	Ministry For The Environment	Amend the value to 60.
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**Consideration**

Submission 201

The substance of this submission is considered above (see Schedule AQL1: Regional ambient air quality targets (RAAQT) ## 03-211 02 00 - 03-211 04 00 - 03-211 05 00, 201, F435(point 3)). The consideration is relevant here and has been adopted. It is noted that the “acceptable” column is the upper threshold of 66% which equates to 66 µg/m<sup>3</sup> not 60 µg/m<sup>3</sup>. Change is recommended, and it is recommended that submission 201 be accepted.

**Recommendation**

**Accept**

Submission 201.

**Amendment Required**

Amend Schedule AQL1, Priority hazardous air pollutants' table p. 3-213 as follows:

**Priority hazardous air pollutants**

Contaminant	Regional Ambient Air Quality Standards (RAAQTs) – Upper Thresholds				Averaging Period	Preferred Techniques of Measurement
	Alert	Acceptable	Good	Excellent		
...						
Formaldehyde	45 <del>100</del> µg/m <sup>3</sup>	40 <del>66</del> µg/m <sup>3</sup>	5 <del>33</del> µg/m <sup>3</sup>	4.5 <del>10</del> µg/m <sup>3</sup>	Annual <del>30</del> minutes	USEPA method TO-11A, or equivalent
...						

**Priority hazardous air pollutants (table) - "Good" column for Formaldehyde ## 03-213 02d08**

<b>201</b>	Ministry For The Environment	Amend the value to 33.
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**Consideration**

Submission 201

The substance of this submission is considered above (see Schedule AQL1: Regional ambient air quality targets (RAAQT) ## 03-211 02 00 - 03-211 04 00 - 03-211 05 00, 201, F435 (point 3)). The consideration is relevant here and has been adopted. The recommendation is the same – that the change sought is made, and it is recommended that submission 201 be accepted.

**Recommendation**

**Accept**

Submission 201.

**Amendment Required**

Amend Schedule AQL1, Priority hazardous air pollutants' table p. 3-213 as follows:

**Priority hazardous air pollutants**

Contaminant	Regional Ambient Air Quality Standards (RAAQTs) – Upper Thresholds				Averaging Period	Preferred Techniques of Measurement
	Alert	Acceptable	Good	Excellent		
...						
Formaldehyde	<del>45</del> <u>100</u> µg/m <sup>3</sup>	<del>40</del> <u>66</u> µg/m <sup>3</sup>	<del>5</del> <u>33</u> µg/m <sup>3</sup>	<del>4.5</del> <u>10</u> µg/m <sup>3</sup>	<del>Annual</del> <u>30</u> minutes	USEPA method TO-11A, or equivalent
...						

**Priority hazardous air pollutants (table) - "Excellent" column for Formaldehyde ## 03-213 02e08**

<b>201</b>	Ministry For The Environment	Amend the value to 10.
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**Consideration**

Submission 201

The substance of this submission is considered above (see Schedule AQL1: Regional ambient air quality targets (RAAQT) ## 03-211 02 00 - 03-211 04 00 - 03-211 05 00, 201, F435 (point 3)).

The consideration is relevant here and has been adopted. The recommendation is the same – that the change sought is made, and it is recommended that Submission 201 be accepted.

**Recommendation**

**Accept**

Submission 201.

**Amendment Required**

Amend Schedule AQL1, Priority hazardous air pollutants' table p. 3-213 as follows:

## Priority hazardous air pollutants

Contaminant	Regional Ambient Air Quality Standards (RAAQTs) – Upper Thresholds				Averaging Period	Preferred Techniques of Measurement
	Alert	Acceptable	Good	Excellent		
...						
Formaldehyde	45 <u>100</u> µg/m <sup>3</sup>	40 <u>66</u> µg/m <sup>3</sup>	5 <u>33</u> µg/m <sup>3</sup>	4.5 <u>10</u> µg/m <sup>3</sup>	<u>Annual</u> <u>30</u> <u>minutes</u>	USEPA method TO-11A, or equivalent
...						

## Priority hazardous air pollutants (table) - "Averaging Period" column for Formaldehyde ## 03-213 02f08

<b>225</b>	St George's Hospital Inc	Replace 'annual' with '30 minute'.
<b>285</b>	Alliance Group Ltd	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0) replace 'annual' with '30 minute'.
<b>379</b>	Christchurch City Council, Civic Offices	Delete the 'annual' for RAAQT for formaldehyde, and replace with '30 minute' average.
<b>407</b>	The Christchurch Press Co. Ltd	Replace 'annual' with '30 minute'.
<b>411</b>	NZMP	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0) replace 'annual' with '30 minute'.
<b>416</b>	NZMP	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0) replace 'annual' with '30 minute'. Make other changes necessary to give effect to this submission.
<b>F391 (point 1)</b>	Carter Holt Harvey Panels MDF Ltd	Support in part submission 225.
<b>F391 (point 2)</b>	Carter Holt Harvey Panels MDF Ltd	Support in part submission 416.
<b>F391 (point 3)</b>	Carter Holt Harvey Panels MDF Ltd	Support in part submission 407.
<b>F391 (point 4)</b>	Carter Holt Harvey Panels MDF Ltd	Support in part submission 379.

**Consideration**

Submissions 225, 285, 379, 407, 411, 416 and Further Submission F391 (points 1, 2, 3 and 4)

The substance of these submissions is considered above (see Schedule AQL1: Regional ambient air quality targets (RAAQT) ## 03-211 02 00 - 03-211 04 00 - 03-211 05 00, 201, F435(point 3)). The consideration is relevant here and has been adopted. The recommendation is the same – that change is made. It is recommended that further submission F391 (points 1, 2, 3 and 4) be accepted in part, and that submissions 225, 285, 379, 407, 411 and 416 be accepted.

**Recommendation**

**Accept**

Submission 225, 285, 379, 407, 411 and 416.

**Accept in part.**

F391 (points 1, 2, 3 and 4).

**Amendment Required**

Amend Schedule AQL1, Priority air pollutants' table as follows:

**Priority hazardous air pollutants**

Contaminant	Regional Ambient Air Quality Standards (RAAQTs) – Upper Thresholds				Averaging Period	Preferred Techniques of Measurement
	Alert	Acceptable	Good	Excellent		
...						
Formaldehyde	<del>15</del> <u>100</u> µg/m <sup>3</sup>	<del>40</del> <u>66</u> µg/m <sup>3</sup>	<del>5</del> <u>33</u> µg/m <sup>3</sup>	<del>1.5</del> <u>10</u> µg/m <sup>3</sup>	<del>Annual</del> <u>30</u> <u>minutes</u>	USEPA method TO-11A, or equivalent
...						

**Schedule AQL2: Other hazardous air pollutants ## 03-214 01 00**

<b>275 (point 1)</b>	Ravensdown Fertiliser Co-Operative Ltd	Provide further information in Schedule AQL 2 explaining how some of the broad pollutant categories will be interpreted when applying the precautionary principle.
<b>275 (point 2)</b>	Ravensdown Fertiliser Co-Operative Ltd	Provide design ground level concentrations for the compounds in Schedule AQL 2 when discharged to air referenced to the Workplace Exposure Standard with appropriate factors applied to protect the wider community.
<b>338</b>	Transit New Zealand, Christchurch	Retain Schedule AQL 2 as worded.
<b>378</b>	Canterbury Growers Society Ltd	Delete Schedule AQL 2 from the Plan and make consequential amendments.
<b>391</b>	Carter Holt Harvey Panels MDF Ltd	Amend so that the Proposed Ambient Air Quality Guidelines 2000 are not used - they should be as guidelines, not as set standards on which rules are based. Make any other consequential amendments to the Plan.
<b>401</b>	NZ Vegetable & Potato Growers Fed. Inc. and NZ Fruitgrowers Fed Inc.	Delete Schedule AQL 2 from the Plan and make consequential amendments.
<b>F347</b>	Federated Farmers of New Zealand	Support submission 401.

**Consideration**Submissions 275 (points 1 and 2), 338, 378, 401 and Further Submission F347

Submission 275 supports (in part) Schedule AQL2. However, the submitter raises concerns about how the pollutants will be interpreted given that some of these will be found in fertiliser. The relief sought is in two parts. The first is that further information is provided by Environment Canterbury. The second is that Environment Canterbury specifies design ground level concentrations for the compounds in Schedule AQL2 referenced to the Workplace Exposure Standard, with appropriate factors applied to protect the community.

Neither part of the relief sought specifies the specific changes sought to Chapter 3. While there is reference to the Workplace Exposure Standard (Workplace Exposure Standards for Atmospheric Contaminants 2002, OSH), no guidance is given on the 'appropriate factors' sought. Submissions 378 and 401 sought that Schedule AQL2 is deleted as it is not included in the 2002 NAAQG. Submission 338 sought Schedule AQL2 is retained as worded.

Schedule AQL2 is referred to in Chapter 3 in the following places:

Policy AQL8(c) (pg. 3-25)	Control of other discharges
Policy AQL8 – Explanation and principal reasons (pg 3-25)	
Policy AQL10(a) (3-31)	Precautionary principle to hazardous air pollutants
Policy AQL10 – Explanation and principal reasons (pg 3-31)	
Method AQL10(c) Resource consents (pg. 3-31)	
Rule AQL56: Workplace ventilation – permitted activity (pg 3-107)	The discharge of hazardous air pollutants identified in Schedule AQL2 is excluded from being a permitted activity.
Explanation and principal reason for Rule AQL56 (pg. 3-166)	
3.6 Environmental results anticipated AQL3 (pg 3-181)	

The immediate effect of Schedule AQL2 relates to workplace ventilation from trade and industrial premises (Rule AQL56) – these exclude production land, but include processing. Schedule AQL2 has the effect of requiring resource consent be obtained for any discharge of the listed hazardous air pollutants. Further, in the resource consent process, guidance given in Policies AQL8 and AQL10 suggests that any discharge of the hazardous air pollutants listed in Schedule AQL2 should be assessed using a precautionary approach.

Policy AQL8(a) provides direction that discharges of contaminants to air from trade and industrial premises that have no more than a minor adverse effects on the environment are to be allowed as a permitted activity. For the pollutants listed in Schedule AQL2, there may be levels of concentration at which this applies. However, the Commissioners were told that Environment Canterbury does not have the information to comprehensively determine these levels. Accordingly, the consent process enables the consent authority to consider the specific circumstances of the discharge and make a determination of appropriateness. The rule regime that provides for this is consistent with taking a precautionary approach – Policies AQL8(c) and 10(a).

No change is recommended at this time. It is recommended that submissions 275, 378, 401 and further submission F347 be rejected, and that submission 338 be accepted.

#### Submission 391

The substance of this submission is considered in Objective AQL2(a) ## 03-026 30 00 – 03-026 31 00., 8(points 1 and 2), 285(points 1 and 2), 391(point 2), 411(points 1 and 2), 416(points 1 and 2), F275, pgs 102-105). The consideration is repeated above (see Schedule AQL1: Regional ambient air quality targets (RAAQT) ## 03-211 02 00 - 03-211 04 00 - 03-211 05 00). No change is recommended, and it is recommended that submission 391 be rejected.

**Recommendation****Reject**

Submission 275 (points 1 and 2), 378, 391, 401 and Further Submission F347.

**Accept**

Submission 338.

**Amendment Required**

None required.

**Source: after Ministry for the Environment, 1994: "Ambient Air Quality Guidelines", pages 43-47) ## 03-217 03 00**

<b>8 (point 1)</b>	Primary Producers Co-Operative Society Ltd, Christchurch	Delete reference to the Ministry for the Environment Ambient Air Quality Guidelines.
<b>8 (point 2)</b>	Primary Producers Co-Operative Society Ltd, Christchurch	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Ministry for the Environment Ambient Air Quality Guidelines to only apply to urban airshed management, not to individual discharges.
<b>285 (point 1)</b>	Alliance Group Ltd	Delete reference to the Ministry for the Environment Ambient Air Quality Guidelines.
<b>285 (point 2)</b>	Alliance Group Ltd	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Ministry for the Environment Ambient Air Quality Guidelines to only apply to urban airshed management, not to individual discharges.
<b>411 (point 1)</b>	NZMP	Delete reference to the Ministry for the Environment Ambient Air Quality Guidelines.
<b>411 (point 2)</b>	NZMP	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Ministry for the Environment Ambient Air Quality Guidelines to only apply to urban airshed management, not to individual discharges.
<b>416 (point 1)</b>	NZMP	Delete reference to the Ministry for the Environment Ambient Air Quality Guidelines. Make other changes necessary to give effect to this submission.

<b>416 (point 2)</b>	NZMP	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), amend reference to the Ministry for the Environment Ambient Air Quality Guidelines to only apply to urban airshed management, not to individual discharges. Make other changes necessary to give effect to this submission.
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### Consideration

Submission 8 (points 1 and 2), 285 (points 1 and 2), 411 (points 1 and 2) and 416 (points 1 and 2)

The substance of these submissions is considered above (see Schedule AQL1: Regional ambient air quality targets (RAAQT) ## 03-211 02 00 - 03-211 04 00 - 03-211 05 00, 8(points 1, 2, 3 and 4), 285(points 1, 2, 3 and 4), 411 (points 1, 2 3, and 4), 416 (points 1, 2, 3 and 4), F435 (point 1)). The consideration is relevant here and has been adopted. The recommendation is the same – that no change is made. It is recommended that these submissions be rejected.

### Recommendation

#### Reject

Submissions 8 (points 1 and 2), 285 (points 1 and 2), 411 (points 1 and 2) and 416 (points 1 and 2).

#### Amendment Required

None required.

### Schedule AQL3: Modelling design ground level concentration for priority hazardous air pollutants ## 03-219 01 00

<b>8</b>	Primary Producers Co-Operative Society Ltd, Christchurch	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), delete Schedule AQL3.
<b>201 (point 1)</b>	Ministry For The Environment	Delete Schedule AQL3.
<b>201 (point 2)</b>	Ministry For The Environment	Amend to refer to the revised 2002 Ambient Air Quality Guidelines.
<b>225</b>	St George's Hospital Inc	Delete Schedule AQL3.

<b>285</b>	Alliance Group Ltd	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), delete Schedule AQL3.
<b>338</b>	Transit New Zealand, Christchurch	Retain Schedule AQL 3 as worded.
<b>379 (point 1)</b>	Christchurch City Council, Civic Offices	Re-examine the design ground level concentrations in Schedule AQL 3.
<b>379 (point 2)</b>	Christchurch City Council, Civic Offices	Delete Schedule AQL 3.
<b>391</b>	Carter Holt Harvey Panels MDF Ltd	Amend so that the Proposed Ambient Air Quality Guidelines 2000 are not used - they should be as guidelines, not as set standards on which rules are based. Make any other consequential amendments to the Plan.
<b>407</b>	The Christchurch Press Co. Ltd	Delete Schedule AQL3.
<b>411</b>	NZMP	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), delete Schedule AQL3.
<b>416</b>	NZMP	As an alternative to the submissions made (see 3-26-31, 3-26-34, 3-27-11, 3-28-28, 3-33-33, 3-148-33, 3-178-23, 3-178-32, 3-1819, 3-211-2, 3-211-4, 3-212-2, 3-213-2, 3-217-3, 3-25-26, 3-27-11, 3-211-5 and 3.0), delete Schedule AQL3. Make other changes necessary to give effect to this submission.
<b>F3001 (point 1)</b>	Christchurch City Council - Director of Policy	Support submission 225.
<b>F3001 (point 2)</b>	Christchurch City Council - Director of Policy	Support submission 201.
<b>F3001 (point 3)</b>	Christchurch City Council - Director of Policy	Support submission 407.

## **Consideration**

Submissions 8, 201 (points 1 and 2), 225, 285, 338, 379 (points 1 and 2), 391, 407, 411, 416 and Further Submission F3001 (points 1, 2 and 3).

The substance of these submission is considered in Chapter 3 – General Submissions ##03-000 00 00, 201, F401(point 2) pg. 28) and Policy AQL10(b) ## 03-031 11 00, 8, 201, 225, 285, 379, 407, 411, F125, pg 9). The analyses are relevant here and are adopted.

It was noted under Policy AQL9 as notified referred to design ground level concentrations (DGLCs) from atmospheric dispersion models and sought to relate them to Regional Ambient Air Quality Targets (RAAQT). The NRRP does not define DGLCs, and the Commissioners accept that predictions of DGLCs can vary considerably, depending eg. on the model used, input data, and meteorology. A further problem is that in defining the percentage of a RAAQT that DGLCs could reach, no recognition is given to localised effects due to plume impacts. It was also noted that specifying the percentage of RAAQTs that DGLCs might reach, removed Environment Canterbury's ability to consider modelling results on a case-by-case basis. The Commissioners recommended that references to DGLCs should be deleted.

They also accepted that the references to DGLCs in Policy AQL10(b) and in Schedule AQL3 were based on values given in an MfE discussion document and that they are not appropriate for use in policy development - see above, ## 03-031 06 00, 201, 391 and F3002 (point 2).

It was recommended that Schedule AQL3 should be deleted.

It is recommended that submissions 201 (point 2), 338 and 379 (point 1) be rejected, and that submissions 8, 201 (point 1), 225, 285, 379 (point 2), 391, 407, 411, 416 and further submission F3001 (points 1, 2 and 3) be accepted.

## **Recommendation**

### **Reject**

Submission 201 (point 2), 338 and 379 (point 1).

### **Accept**

Submission 8, 201 (point 1), 225, 285, 379 (point 2), 391, 407, 411, 416 and Further Submission F3001 (points 1, 2 and 3).

### **Amendment Required**

Delete Schedule AQL3: Modelling design ground level concentration for priority hazardous air pollutants, p. 3-219.

**Schedule AQL4: Exempt heritage buildings ## 03-220 01 00**

<b>4</b>	R. L. Lingard	Include Wetheral House, 682 Ferry Rd and Whalebone Cottage, 704 Ferry Rd, to Schedule AQL4.
<b>44</b>	Christchurch City Council - Spreydon Heathcote Community Board	Support.
<b>328</b>	New Zealand Historic Places Trust, Southern Region	Add to Schedule AQL 4. Architect's Room, Arts Centre,.1 open fire place; Belfast Schoolhouse, 665 Main North Rd. 1 coal range; Bishops House, Former Deanery, 80 Bealey Ave. 2 open fire places; Canterbury Club, Cnr Cambridge Tce and Worcester Bvd. 3 open fire places; Christchurch Club, 154 Worcester St. 4 open fire places; Chokeybore Lodge, 148 Racecourse Rd. 4 open fire place; Community of the Sacred Name, 181 Barbadoes St. 5+ open fire places; Country Glen Motel, 107 Bealey Ave. 5+ open fire places; Daresbury, 67 Fendalton Rd. 4 open fire places; Elizabeth House, 6 Circuit St. 2 open fire places; Elisa's Manor House, Bealey Ave. 3 open fire places (2) Ferrymead Park buildings, eg Curragh Cottage, several open fireplaces; Glenmore House, 435 Poprt Hills Rd. 3 open fire places; Great Hall, Arts Centre. 1 open fire place; Ilam Homestead, Ilam Rd. 1 open fire place; Ironside House, 32 Salisbury St. 2 open fire places; Kate Sheppard's former home, 83 Clyde Rd. 3 open fire places; Marli, 118 Bealey Ave. 5+ open fire places; Midland Club, (Caffe Roma) 176 Oxford Tce. 2 open fire places; Ngaio Marsh House, 37 Valley Rd. 2 open fire places; Nydfa, 34 Hansons Lane. 3 open fire places; Old Stone House, Cracoft Community Centre. 1 open fire place; 45 Ranfurly St. 5 open fire places; Riccarton House, 12 Kahu Rd. 1 open fire place; and the future reinstatement of coal range; St Lukes Vicarage, 185 Kilmore St. 4 open fire places; Sign of the Takahe. 2 open fire places; Tiptree Cottage, Savills Rd. 1 coal range and one open fireplace. (1) Warners Hotel, 50 Cathedral Square. 1 open fire place; Weston House, 62 Park Tce. 2 open fire places; 2 Whisby St. 1 open fire place; (currently for sale, future use uncertain) 17 Worcester Bvd. House. 1+ open fire places; 21 Worcester Bvd. 5 open fire places.

**Consideration**Submission 4

Submitter 4 sought to add additional buildings into Schedule AQL4.

The substance of this submission is considered above (##03-044 29 00 – 03-044 32 00, 320, 318, 319, 320; 25, 136, 325; ##03-044 37 00, 130, 328, F328). Those analyses are adopted. Further, to add the buildings proposed, which currently fail to meet the stipulated criteria would have an impact on the integrity and credibility of Schedule AQL4. It is recommended that the submission be rejected.

**Submission 328**

Submitter 328 considers that Schedule AQL4 is incomplete and has provided a list of buildings. The submitter “strongly advocate their inclusion in the list of recommended exempt buildings.”

The list provided by the submitter, upon examination, contains the same buildings as are already contained in Schedule AQL4. Schedule AQL4, as it currently stands, satisfies the relief sought by the submitter and it is accordingly recommended that the submission be rejected.

**Submission 44**

Submitter 44 supports the exemption for heritage buildings. This submission can be recommended for acceptance.

**Recommendation**

**Reject**

Submissions 4, 328.

**Accept**

Submission 44.

**Amendment Required**

*None Required.*

**Riccarton House, Kahu Road ## 03-220 03a15**

<b>189</b>	Riccarton Bush Trust	Retain provision, for Riccarton House, Kahu Road.
<b>F189</b>	Riccarton Bush Trust	Support submission 189.

**Consideration**

**Submission 189, F189**

Submitter 189 supports the listing of Riccarton House and seeks the retention Policy AQL17. These submissions can be accepted. The Commissioners recommend accordingly.

**Recommendation**

**Accept**

Submission 189, F189.

**Amendment Required**

None Required.

**Schedule AQL5: Minimum chimney heights for permitted large scale fuel burning devices in Rules AQL23 and AQL24 ## 03-222 01 00**

<b>338</b>	Transit New Zealand, Christchurch	Retain Schedule AQL 5 as worded.
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**Consideration**Submission 338

The submission seeks to retain Schedule AQL5. There is no submission seeking changes to the schedule and no change is being recommended by the Commissioners. It is recommended that the submission be accepted.

**Recommendation****Accept**

Submission 338.

**Amendment Required**

None required.

**Schedule AQL6: Particulate emission measurement requirement in Rules AQL18, AQL19, AQL20, AQL21, AQL24 and AQL26 ## 03-224 01 00**

<b>274 (point 1)</b>	K2 Environmental Ltd, South Island	Measure the discharge using a PM10 method such as USEPA 201a and USEPA 202.
<b>274 (point 2)</b>	K2 Environmental Ltd, South Island	The reporting requirements should include all aspects detailed in a letter issued by Environment Canterbury titled 'Minimum Reporting Requirements for Stack Testing'.
<b>274 (point 3)</b>	K2 Environmental Ltd, South Island	There should be a mechanism by which sampling methods are reviewed and updated as the publications become available. Eg the ASTM D3685-78 method has been updated to ASTM D3685-98.
<b>274 (point 4)</b>	K2 Environmental Ltd, South Island	Results should be corrected to 12% CO <sub>2</sub> .
<b>274 (point 5)</b>	K2 Environmental Ltd, South Island	Carbon dioxide is to be measured by infra red analyser or Fryrite analyser or equivalent. These analysis methods must be accompanied by traceable calibration certification.

## **Consideration**

### Submission 274 (point 1)

Because it is difficult and expensive to measure PM<sub>10</sub> emissions, in the Commissioners' view it is both reasonable and appropriate to require measurement of total suspended particulate matter, in accordance with current standard practice for emission testing of large scale fuel burning devices. In some cases where potential adverse effects from PM<sub>10</sub> emissions are significant, emission testing of PM<sub>10</sub> may be appropriate. In such cases, further emission testing (including measurement of PM<sub>10</sub>) can be imposed by conditions of resource consents. No change is recommended by the Commissioners, and it is recommended that this part of the submission is rejected.

### Submission 274 (point 2)

The schedule requires that measurement be undertaken by a person competent in stack emissions testing. It is not considered necessary to detail reporting requirements. ECan has previously published guidelines, but reporting requirements may change over time as developments in emission testing practices occur. No change is recommended by the Commissioners and it is recommended that this part of the submission should also be rejected.

### Submission 274 (point 3)

The schedule specifies test methods "or an equivalent method that complies with the fundamental sampling requirements of ISO 9096:1992(E)". It is considered that this clause should allow for updated methods to be used as they become available.

The Commissioners agree. To clarify the issue, it is recommended that "equivalent method" be changed to "current equivalent method" to require that the most recent test method be used.

The submitter also points out that method ASTM D3685-78 has been replaced by method ASTM D3685-98.

It is recommended that method ASTM D3685-78 be deleted from the schedule, and method ASTM D3685-92 be changed to ASTM D3685-98. Change is recommended by the Commissioners, and it is recommended that this part of the submission be accepted.

### Submission 274 (point 4)

The submitter considers that results should be corrected to 12% CO<sub>2</sub>.

The schedule requires that results be adjusted to 8% oxygen or 12% carbon dioxide. The submitter points out that the oxygen content in a discharge will vary according to fuel burned, and notes that use of oxygen concentration measured at or soon after the combustion zone to correct results can cause an erroneous calculation.

The Commissioners accept their views and understand them to be technically correct. It is therefore recommended that the allowance for correction to 8% oxygen be deleted, and that the submission be accepted.

### Submission 274 (point 5)

The submitter requests that the method of carbon dioxide analysis should be specified in the schedule.

Because the schedule requires that the measurement be undertaken by a person competent in stack emissions testing and puts in place requirements with which the method of testing must comply, it is not considered necessary to detail these methods. It is noted that such methods may change over time as developments in emission testing practices occur. However, it is recommended that the schedule be amended to require that the carbon dioxide concentration be measured by suitably calibrated equipment. The submission is therefore recommended for acceptance in part.

### **Recommendations**

#### **Reject**

Submission 274 (points 1 and 2).

#### **Accept**

Submission 274 (points 3 and 4).

#### **Accept in part**

Submission 274 (point 5).

#### **Amendment Required**

Amend Schedule AQL6, p. 3-224 as follows:

#### **Schedule AQL6: Particulate emission measurement requirement in Rules AQL18, AQL19, AQL20, AQL21, AQL24 and AQL26**

Measurement of particulate matter emissions from large scale solid fuel burning devices, under Rules AQL18, AQL19, AQL20, AQL21, AQL24 and AQL26, shall be according to the following requirements.

#### Measurement Requirements

The concentration of total suspended particulate in the exhaust gas stream shall be measured by a person competent in stack emissions testing. Measurement shall occur when all fuel burning equipment is operating at greater than 50 percent of the maximum continuous rating. The method of sampling and analysis shall comply with ISO 9096:1992(E), and may include methods BS 6069: 1992, ~~ASTM D3685-78~~, ASTM D3685M-~~92~~ 98, AS 4323.2-1995, US EPA Method 5, US EPA Method 17 or ~~an~~ a current equivalent method that complies with the fundamental sampling requirements of ISO 9096:1992(E). Results shall be adjusted to 0 degrees Celsius, 101.3 kilopascals, and ~~8% oxygen or~~ 12% carbon dioxide on a dry gas basis. For the purpose of this adjustment, the concentration of carbon dioxide shall be analysed using suitably calibrated equipment. The results shall include a description of the method used, the rate of appliance fuel consumption during testing and any assumptions made.