

**IN THE MATTER**      **of the Resource Management Act 1991**  
**AND**  
**IN THE MATTER**      **of the Proposed Canterbury Air Regional**  
   **Plan**

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**STATEMENT OF EVIDENCE OF RICHARD MATTHEWS FOR CARTER  
HOLT HARVEY PULP & PAPER LIMITED**

**DATED 18 SEPTEMBER 2015**

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Schedule One: Proposed Wording for Objectives, Policies and Rules

## 1. EXECUTIVE SUMMARY

1.1 I address four matters in my evidence. They are:

- (a) Objectives and Policies to Recognise and Provide for Industry.
- (b) Best Practicable Option Provisions.
- (c) Provisions Relating to Reverse Sensitivity.
- (d) Ambient Air Quality Guidelines.

1.2 Carter Holt Harvey made submissions (submission points 2363/2351, 2356, 2359, 2360, 2362, 2371, 2368, 2372 and 2373) seeking to amend the introduction, objective, policies and rules sections of the pCARP that deal with these subject areas. My evidence relates to these submission points.

### **Objectives and Policies to Recognise and Provide for Industry**

1.3 The Carter Holt Harvey site is zoned "Industrial B5" under the operative Christchurch District Plan, which provides for a range of light and heavy industry activities. The site is zoned "Industrial General" under the proposed Christchurch Replacement District Plan. The plant is appropriately zoned and has operated at the site for many years.

1.4 The Proposed Canterbury Air Regional Plan ("pCARP") seeks to provide *"for industrial and economic growth in appropriate areas, including through the adoption of the best practical option and best practice"*.

1.5 I support the proposed bullet point in the introduction that indicates that the pCARP seeks to support the Canterbury Regional Council's non-regulatory clean air works programme with regulation that recognises *"the investment and significant contribution to economic and social wellbeing of existing industrial, service and rural productive activities..."*. I also consider that this should be provided for by way of

an objective. Wording for such an objective is included in the attached schedule.

- 1.6 I support the inclusion of proposed Policy 6.11A as stated in the Section 42A Report, but note that changes to other policies are necessary to provide an appropriate framework for the continued operation (and improvement where required) of existing industry under the pCARP provisions. I discuss these changes in my evidence and include proposed wording in the attached schedule.

### **Best Practicable Option Provisions**

- 1.7 The pCARP seeks to support industry activity while seeking improvements through the implementation of BPO technologies over time. Several policies, such as Policy 6.20, require the implementation of BPO technologies for activities discharging contaminants into air.
- 1.8 While I agree that BPO is a useful tool in reducing industrial air discharge emissions, there are considerable technical, practical and financial reasons why new technology cannot always be retrofitted to existing industrial activities in order to achieve reductions in air emissions.
- 1.9 The Section 42A Report recommends (Recommendation Ind-Gen) that new policies are included in the pCARP that set clear expectations around application of the best practicable option in the context of the receiving environment and that Rules 7.17 and 7.18 are replaced with a new rule or rules that "enable application of BPO as appropriate to the receiving environment". However, no wording is provided with respect the recommended policy and rule changes.
- 1.10 I have therefore recommended policies and rules to be included in the pCARP to address these matters. Rules 7.17 and 7.18 specify the activity status for various consent activities, which in my opinion should not be confused with BPO considerations. The wording I propose is included in the attached schedule.

- 1.11 In my opinion, including the consideration of BPO in the above rules would create uncertainty in the rules in that BPO for each separate discharge will differ depending on the circumstances applying at that particular site. Therefore rather than being the basis of the activity status, BPO should form part of the assessment criteria used in assessing the application.

### **Provisions Relating to Reverse Sensitivity**

- 1.12 In my opinion Policy 6.7 is based on, and the Section 32 Report provides, an erroneous interpretation of the concept of reverse sensitivity. A reverse sensitivity effect is not one that a discharger should be obliged to address (it is an effect on the discharger, not an effect of the discharger); it is an effect that should be avoided by not allowing the sensitive activity in the first case.
- 1.13 The pCARP appropriately acknowledges that "*reverse sensitivity effects of discharging activities can be avoided through the appropriate location of sensitive activities*"; however, this does not translate to the policies of pCARP. In my opinion Policy 6.7 continues the erroneous description of reverse sensitivity given in the Section 32 Report, does not give effect to the Canterbury Regional Policy Statement and should be deleted.
- 1.14 As is highlighted in the Section 42A Report with respect to reverse sensitivity matters, there are two aspects to be considered. These are:
- (a) A retrospective situation, where an existing sensitive activity is located near an existing discharge to air and where steps should be taken to improve the local environment. This is the situation Policy 6.7 is intended to address.
  - (b) A future situation where reverse sensitivity issues may arise if a sensitive activity is allowed to locate in the vicinity of an existing discharge. The Section 42A Report considers that this situation will not arise as it will be controlled through land use planning provisions.

- 1.15 I do not agree that Policy 6.7 is needed to address the retrospective situation. Any such sensitivity issues arising can and should be addressed through resource consent application processes, implementation of the National Environmental Standards for Air Quality and implementation of the BPO provisions of the pCARP.
- 1.16 I do not consider that there is any need to include further BPO provisions relating to reverse sensitivity, as this matter is already fully dealt with by other policy measures.

### **Ambient Air Quality Guidelines**

- 1.17 The pCARP uses the Ministry for the Environment Ambient Air Quality Guidelines (2002) as a tool for seeking an improvement to air discharges in the region.
- 1.18 I consider that the use of the Guidelines as set out in the pCARP is generally inconsistent with the purpose and intent of the Guidelines. The primary purpose of the ambient air quality guidelines is to promote the sustainable management of the air resource in New Zealand, and they provide minimum requirements that outdoor air quality should meet in order to protect human health and the environment. The Guidelines are intended to be used to identify trigger points where emission reduction strategies should be implemented to improve air quality or where efforts should be made to maintain air quality and, if possible reduce emissions.
- 1.19 The pCARP refers to the ambient air quality guideline in Policies 6.2, 6.3, 6.21, and Rules 7.17 and 7.18. Policies 6.2 and 6.3 essentially provide alert levels as to when actions are required to improve ambient air quality and in my opinion are generally consistent with the manner in which the Guidelines were intended to be used.
- 1.20 The wording of Policy 6.21 in practice requires that the Guidelines be regarded as mandatory never-to-be exceeded standards, particularly with respect to the policy requiring that discharges resulting in exceedances of the Guidelines are to be avoided. The Section 42A Report confirms that the policy should be read as to mean "not allow" or "prevent the occurrence of" such discharges. I consider this to be

inconsistent with the way in which the Guidelines were developed, intended to be used and their purpose.

- 1.21 It is clear that the Guidelines should be used as part of a full assessment of environmental effects for discharges to air as required under the RMA, but that they should not be the determining factor as to whether a discharge to air should or should not occur. I therefore generally support the Section 42A Report recommendation R - 6.21 that Policy 6.21 be amended to provide clear guidance as to what is to be achieved in applying BPO in different receiving environments, rather than the focus being on compliance with the Guidelines as de facto standards. In particular, the policy should not require that discharges be avoided if "*the discharge will result in the exceedance, or exacerbation of an existing exceedance, or the guideline values*".
- 1.22 I set out wording for policies with respect to BPO in the attached schedule that should replace Policy 6.21.
- 1.23 Rules 7.17 (non-complying activity) and 7.18 (prohibited activity) also involve the use of the ambient air quality guidelines in a manner inconsistent with the purpose for which they were developed. In my opinion it is inappropriate for the Guidelines to be used to define the activity status for consent applications. I therefore generally support the recommendations in the Section 42A Report that Rule 7.17 and 7.18 be deleted. However, rather than Rules 7.17 and 7.18 being replaced with rules referring to BPO, I consider that BPO matters should be addressed through assessment criteria.
- 1.24 I have proposed wording to replace Rules 7.17 and 7.18 and to provide appropriate assessment criteria in the attached schedule.

**2. QUALIFICATIONS AND EXPERIENCE**

- 2.1 My full name is Richard John Matthews.
- 2.2 I am a director of Mitchell Partnerships Limited, a specialist environmental consulting practice with offices in Auckland, Tauranga and Dunedin.
- 2.3 I hold the qualifications of Master of Science (Hons) degree specialising in Chemistry, and have been working on resource consent applications (and their former descriptions under legislation prior to the commencement of the Resource Management Act 1991) since 1979.
- 2.4 I have thirty five years' experience as a resource management adviser, initially in the local government sector and since 1999 in private practice with the environmental consulting practice, Mitchell Partnerships Limited. I have been involved in a large number of resource management projects within New Zealand, including several Regional and District Plan reviews, and air, land and water consent projects.
- 2.5 I have been engaged by Carter Holt Harvey Pulp and Paper Limited ("Carter Holt Harvey") to provide resource management and planning advice in respect of the Proposed Canterbury Air Regional Plan ("pCARP").
- 2.6 I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court Practice Note and that I agree to comply with it. I confirm that I have considered all the material facts that I am aware of that might alter or detract from the opinions I express. In particular, unless I state otherwise, this evidence is within my sphere of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.



### **3. SCOPE OF EVIDENCE**

3.1 Carter Holt Harvey Limited lodged submissions on the Proposed Canterbury Air Regional Plan seeking a variety of changes to the plan. My evidence in particular relates to Carter Holt Harvey submissions seeking:

- (a) The insertion of new objectives and policies to recognise and provide for existing industry;
- (b) Changes to provisions relating to the implementation of the Best Practicable Option (“BPO”) for discharges to air;
- (c) Changes to the provisions relating to reverse sensitivity; and
- (d) Changes to the way in which the Ministry for the Environment 2002 Ambient Air Quality Guidelines are used in the pCARP.

3.2 Carter Holt Harvey made submissions (submission points 2363/2351, 2356, 2359, 2360, 2362, 2371, 2368, 2372 and 2373) seeking to amend the introduction, objective, policies and rules sections of the pCARP that deal with these subject areas. My evidence relates to these submission points.

3.3 In preparing this evidence I have reviewed the pCARP, the pCARP Section 32 Report and the pCARP Section 42A Report.

3.4 I refer to the brief of evidence presented by Mr Reid regarding the activities undertaken by Carter Holt Harvey in Christchurch, the importance of the company and its interests in Christchurch. For the purposes of my evidence I adopt his evidence.

### **4. OBJECTIVES AND POLICIES TO RECOGNISE AND PROVIDE FOR INDUSTRY**

4.1 Briefly, Carter Holt Harvey owns and operates packaging plant in Shands Road, Christchurch. The operation includes discharges to air from on-site coal and oil fired energy plant. The packaging plant is located in an area zoned for industrial use in the Christchurch District Plan. The present zoning is Industrial B5, which “*is characterised by a*

*wide range of both light and heavy industry, processing and warehousing*".<sup>1</sup>

- 4.2 The site is zoned IG (Industrial General) under the Proposed Christchurch Replacement District Plan. This zone is to "provide for industrial activities that can operate in close proximity to more sensitive zones due to the nature and limited effects of activities including noise, odour, and traffic".<sup>2</sup> Hearings for the proposed Christchurch Replacement Plan are currently in progress.
- 4.3 The plant is located in an area that is appropriately zoned, and has operated at the site for many years.
- 4.4 The Christchurch Land Use Recovery Plan<sup>3</sup> recognises the need to protect existing industrial areas<sup>4</sup> as well as providing new areas to support and enable the recovery of Christchurch following the earthquakes which affected the city.
- 4.5 This is also acknowledged in the pCARP in that it seeks to provide "for industrial and economic growth in appropriate areas, including through the adoption of the best practicable option and best practice".<sup>5</sup>
- 4.6 Similarly the need for recognition of existing investment and the contribution that industrial, service and rural productive activities that discharge into air make is acknowledged in the Section 42A Report, with the addition of a bullet point that indicates that the pCARP seeks to support the Canterbury Regional Council's non-regulatory clean air work programme with regulation that recognises "*the investment and significant contribution to economic and social wellbeing of existing industrial, service and rural productive activities...*".<sup>6</sup>
- 4.7 I support the inclusion of that bullet point in the introduction (and the associated changes to the introduction recommended in R-Section 1-

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<sup>1</sup> Operative Christchurch District Plan, Section 1.11 introduction.

<sup>2</sup> Proposed Christchurch Replacement Plan, Policy 3(a)(i)(A)

<sup>3</sup> The Christchurch Land Use Recovery Plan is a statutory document prepared under the Canterbury Earthquake Recovery Act. Any decisions on resource consents or notices of requirement, or changes to planning documents under the Resource Management Act 1991 (RMA), must not be inconsistent with the Recovery Plan.

<sup>4</sup> For example, Section 4.3.1 refers to protecting "industrial areas and the infrastructure invested in them from being undermined by higher-value land uses".

<sup>5</sup> pCARP Introduction

<sup>6</sup> Recommendation R-Section 1-1

1). However, I also consider that this should be provided for by way of a specific objective recognising these matters, on the basis that as currently worded the objectives enable nationally and regionally significant infrastructure and otherwise focus on the effects of air discharges, but lack any clear recognition of existing industry. Such an objective could be worded as follows:

*Recognise and provide for the investment and contribution to economic and social wellbeing of existing industrial, service and rural productive activities that discharge to air.*

4.8 The Section 42A report notes that Carter Holt Harvey sought the inclusion of a new objective relating to providing for locational and operational requirements for industry, and recommends that this would be better addressed by way of a policy 6.11A:<sup>7</sup>

*Locational constraints of discharging activities, including heavy industry and infrastructure, are recognised so that operational discharges into air are enabled where the best practicable option is applied.*

4.9 I support the inclusion of the proposed policy 6.11A, but note that changes to other policies (as discussed below) are necessary to provide an appropriate framework for the continued operation (and improvement where appropriate) of existing industry under the pCARP provisions.

## **5. BEST PRACTICABLE OPTION PROVISIONS**

5.1 As noted above, the pCARP seeks to support industry activity while seeking improvements through the implementation of BPO technologies over time. Several policies, such as Policy 6.20<sup>8</sup> require implementation of BPO for activities discharging contaminants into air so that degradation of ambient air quality is minimised.

5.2 The Carter Holt Harvey submissions support progressive and staged adoption of BPO for industrial discharges.

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<sup>7</sup>

Recommendation R-5

<sup>8</sup>

"Apply the best practicable option to all large scale and industrial activities discharging contaminants into air so that degradation of ambient air quality is minimised".

- 5.3 I note that the “Air quality status report Christchurch Airshed”<sup>9</sup> concludes that of the five contaminants (PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>2</sub>, CO and O<sub>3</sub>) identified in the National Environmental Standard for Air Quality (“**NESAQ**”), only PM<sub>10</sub> still regularly exceeds the standard. That report also estimates that industrial and commercial sources are responsible for about 22% of known daily PM<sub>10</sub> emissions, while home heating (59%) and motor vehicles (19%) are responsible for the remaining 78% of emissions, with total industrial PM<sub>10</sub> emissions reducing by about 18% in the period from 2009 to 2014.
- 5.4 The Air quality status report makes it very clear that:
- (a) The contaminant of particular importance in Christchurch is PM<sub>10</sub>; and
  - (b) While industrial discharges to air do contribute to air quality in Christchurch, other activities such as home heating and vehicle emissions are responsible for almost 80% of the PM<sub>10</sub> in Christchurch, meaning that even having onerous requirements relating to industrial discharges to air will in fact not address air quality effects in Christchurch fully.
- 5.5 The Section 32 Report observes that there has been a proportional increase in the Christchurch airshed from industrial emissions, as emissions from home heating sources have decreased<sup>10</sup> and concludes that increased emphasis should be placed on implementing BPO to ensure that discharges to air are minimised.
- 5.6 While I agree that BPO is a useful tool in reducing industrial air discharge emissions, I am aware that there are considerable technical, practical and financial reasons why new technology cannot always be retrofitted to existing industrial activities in order to achieve reductions in air emissions, hence the use of the term best *practicable* option, which requires assessment of a range of technical, practical and financial factors before implementing an upgrade.

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<sup>9</sup> Environment Canterbury Investigations and Monitoring Group “Air quality status report Christchurch Airshed” Technical Report No. R14/116, December 2014.

<sup>10</sup> Section 32 Report, Industrial and large-scale discharges to air, page 4-32

- 5.7 While no specific wording for amended rules is provided, the Section 42A report<sup>11</sup> recommends that:

*New policies are inserted that set clear expectations around application of the best practicable option in the context of the receiving environment.*

*Rules 7.17 and 7.18 are amended to enable industry to develop in a way that is appropriate relative to the sensitivity of the receiving environment*

- 5.8 In my opinion, I consider that the following policies should be included in the pCARP:

*BPO1 Minimise the effects of air discharges by:*

- a) *Using best practicable option emissions control at the source of the discharge;*
- b) *Adopting a precautionary approach to new discharges to air where there is uncertainty and a risk of serious effects or irreversible harm to the environment from those discharges; and*
- c) *Avoiding discharges to air that will cause significant adverse effects.*

*BPO2 Require individual sources of any discharge to air to demonstrate where relevant to the discharge type and reasonably practicable:*

- a) *Fuels used are appropriate for use in the Christchurch Air Shed or Clean Air Zones;*
- b) *Energy is efficiently used;*
- c) *Best practicable option is used;*
- d) *Fugitive emissions are appropriately managed;*
- e) *Risk and adverse effects on people, property and the environment from hazardous air pollutants are avoided; and*
- f) *The amenity provisions of any zone where the discharge is having an effect are met.*

- 5.9 I note that BPO1(b) proposed above addresses the same matter as Policy 6.14 (precautionary approach), and refers to the approach being applied where there is a risk of serious or irreversible harm

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<sup>11</sup>

Section 42A Report, pages 13-5 and 13-6

which I consider better reflects the precautionary principle.<sup>12</sup> Policy 6.14 should be deleted as a consequential change arising from the above policy.

- 5.10 In addition to the above policies, Rules 7.17 and 7.18 in the pCARP should be deleted as recommended in the Section 42A Report. I consider that (subject to my comment below regarding Rule 7.59) these rules should be replaced with:

*7.17 The discharge of contaminants into air from a large scale solid fuel burning device or from an industrial or trade premise established after 28 February 2015 that will likely (based on air dispersion modelling) result in the National Environmental Standard for Air Quality standards being exceeded is a non-complying activity.*

*7.18 The discharge of contaminants into air from a large scale fuel burning device or from an industrial or trade premise that was established prior to 28 February 2015 or will likely not (based on air dispersion modelling) result in the National Environmental Standard for Air Quality standards being exceeded is a discretionary activity.*

- 5.11 I note that Rule 7.59 provides that any discharge of contaminants to air from an industrial or trade premise that does not comply with the appropriate permitted activity rule and conditions, and is not prohibited, and is not otherwise provided for by rules 7.3, 7.4 or 7.28 - 7.58 is a discretionary activity. Arguably Rule 7.18 as drafted above is not required in that the activities described would be controlled by Rule 7.59. However, to make the status clear with respect to existing activities or where the NESAQ standards are unlikely to be exceeded, I have included proposed Rule 7.18 above.

- 5.12 For consistency, a consequential amendment should be made to Rule 7.59 include Rules 7.17 and 7.18 in the rule as follows:

*7.59 Any discharge of contaminants into air from an industrial or trade premise or process that does not comply with the appropriate permitted activity rule and conditions, and is not prohibited, and is not otherwise provided for by rules 7.3, 7.4, 7.17, 7.18 or 7.28 - 7.58 is a discretionary activity.*

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<sup>12</sup> For example, see the Quality Planning website description of the precautionary principle provided for the “Managing specific natural hazards through RMA plans” topic.

- 5.13 While I have proposed use of the NESAQ in proposed Rules 7.17 and 7.18, I am aware that Regulation 17 of the NESAQ provides some exceptions with respect to situations where Standards do not apply.
- 5.14 Regulation 17(a) requires that a consent authority must decline an application for a resource consent to discharge PM<sub>10</sub> if the discharge would be likely to increase the concentration of PM<sub>10</sub> by more than 2.5 micrograms per cubic metre in any part of a polluted airshed.
- 5.15 However, Regulation 17(a) does not apply if:
- (a) The proposed consent is for the same activity on the same site as an existing consent held by the applicant for the same activity [Regulation 17(2)]; or
  - (b) The consent authority is satisfied that the applicant can reduce the PM<sub>10</sub> discharged from another source or sources into each polluted airshed affected by the consent by the same or a greater amount than the amount likely to be discharged by the proposed consent within 12 months of the grant of consent [Regulation 17(3)].
- 5.16 I consider that Rule 7.17, as drafted above, would apply to any discharges to air contemplated under Regulation 17(3), while Rule 7.18 would apply to discharges to air contemplated under Regulation 17(2).
- 5.17 I note that I have not included consideration of BPO in the above rules as I consider that this would create uncertainty in that BPO for each separate air discharge will differ depending on the circumstances applying at that particular site. Rather than being the basis of a rule in the pCARP that defines activity status, BPO should form part of the assessment criteria used in assessing applications.
- 5.18 In this regard, I consider that the following assessment criteria should be included in the pCARP:

*The degree to which the activity affects the ability to meet the National Environmental Standard for Air Quality standards.*

*Whether the amount of separation between the activity discharging to air and existing activities sensitive to air discharges is appropriate to mitigate adverse effects on the environment, health and amenity.*

*The value of the existing investment and its contribution to economic and social wellbeing.*

*The extent to which the activity is consistent with and appropriate to the purpose of the underlying zoning of the subject site.*

*The degree to which conditions of consent can avoid, remedy or mitigate adverse effects.*

*The degree to best practicable options for the control of air discharge emissions can or will be implemented.*

*The extent to which amenity provisions of any zone where the discharge is likely to have an effect are met.*

*Whether the assessment methods, including monitoring and modelling are appropriate to the scale of the discharge and any potential adverse effects.*

*Whether discharges to air are reduced where practicable, through:*

- a) *Use of fuels appropriate for the Christchurch Air Shed or Clean Air Zones;*
- b) *Efficient use of energy;*
- c) *Implementation of best practicable option;*
- d) *Appropriate management of fugitive emissions; and*
- e) *Avoidance of risk and adverse effects on people, property and the environment from hazardous air pollutants.*

## **6. PROVISIONS RELATING TO REVERSE SENSITIVITY**

6.1 As noted in the Section 32 Report for the pCARP<sup>13</sup>, the Canterbury Regional Policy Statement “*has strong directive policy seeking the avoidance of reverse sensitivity effects*”.

6.2 The Regional Policy Statement includes, for example, the following Significant Issue for the Recovery and Rebuilding of Greater Christchurch:

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<sup>13</sup> Section 32 Report, page 3-10, first paragraph



*Conflicts between legitimately established activities and sensitive activities which seek to locate in proximity to these (reverse sensitivity)<sup>14</sup>*

6.3 Similarly, the Regional Policy Statement includes the following policies:

*To enable development including regionally significant infrastructure which:<sup>15</sup>*

...

(2) *Avoid or mitigate:*

(a) *Natural and other hazards, or land uses that would likely result in increases in the frequency and / or severity of hazards;*

(b) *Reverse sensitivity effects and conflicts between incompatible activities, including identified mineral extraction areas;*

*To ensure that provision, recovery and rebuilding of business land in Greater Christchurch maximises business retention, attracts investment, and provides for healthy working environments, business activities are to be provided for in a manner which:<sup>16</sup>*

(8) *Ensures reverse sensitivity effects and conflicts between incompatible activities are identified and avoided or mitigated against;*

6.4 In addition, the Regional Policy Statement includes methods such as:

*Territorial authorities:*

*Will:*

(6) *Set out objectives and policies, and may include methods in district plans to ensure that:*

(a) *Activities discharging contaminants to air are appropriately located.*

(b) *Provision is made to protect established activities discharging contaminants to air from adverse reverse sensitivity effects resulting from encroachment by sensitive land-uses if the established activity has adopted the best practicable option to prevent or minimise any actual or likely adverse effects.*

6.5 The Regional Policy Statement describes the concept of reverse sensitivity as follows:

<sup>14</sup>

Issue 6.1.2(g)

<sup>15</sup>

Policy 5.3.2 – Development conditions (Wider Region)

<sup>16</sup>

Policy 6.3.6 – Business land

*The concept of reverse sensitivity describes the situation where an existing activity has deliberately located away from land uses that may be sensitive to the discharge, but is subsequently encroached on, resulting in pressure for that activity to cease or change the way it operates. Examples include residential areas encroaching on activities that produce odour, for example airports or certain industries.<sup>17</sup>*

6.6 I broadly agree with the Regional Policy Statement description of reverse sensitivity.

6.7 The Section 32 Report for the pCARP describes reverse sensitivity as follows:

*Reverse sensitivity effects occur when sensitive activities move into an area where existing activities can cause adverse effects to the sensitive activity. When reverse sensitivity occurs with discharging activities, the effects of these discharging activities can become offensive and objectionable in the new receiving environment, even if the effects were minor when the activity established.<sup>18</sup>*

6.8 In my opinion, the Section 32 Report provides an erroneous description of the concept of reverse sensitivity. It is not a situation where a discharging activity becomes “offensive and objectionable” in the “new environment”, it is a situation where a new sensitive activity moves into an existing environment and creates pressure for change that would not otherwise exist. A reverse sensitivity effect is not one that a discharger should be obliged to address (it is an effect **on** the discharger, not an effect **of** the discharger); it is an effect that should be avoided by not allowing the sensitive activity in the first place.

6.9 While the pCARP itself appropriately acknowledges that “*reverse sensitivity effects on discharging activities can be avoided through the appropriate location of sensitive activities*”<sup>19</sup>, this does not translate into the policies in the pCARP. In my opinion, Policy 6.7<sup>20</sup> continues the erroneous interpretation given in the Section 32 Report, and does not give effect to the Canterbury Regional Policy Statement. The policy should be deleted.

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<sup>17</sup> Regional Policy Statement, page 160

<sup>18</sup> Section 32 Report, page 3-10

<sup>19</sup> pCARP, page 1-7

<sup>20</sup> “6.7 Where, as a result of authorised land use change, land use activities within the neighbourhood of a discharge into air are significantly adversely affected by that discharge, it is anticipated that within a defined time frame the activity giving rise to the discharge will reduce effects or relocate”.

- 6.10 I note that the Section 42A Report recommends that the introductory text be amended to:

*Where discharging activities are provided for, they must be protected from reverse sensitivity effects through provisions in district plans that ensure the avoidance of encroachment of sensitive activities into these areas.*<sup>21</sup>

- 6.11 Policy 6.7 is inconsistent with the approach recommended above in terms of addressing reverse sensitivity effects.
- 6.12 The Section 42A Report notes that “*When reverse sensitivity occurs with discharging activities, the effects of these discharging activities can become offensive and objectionable in the new receiving environment, even if the effects were minor when the activity established*”.<sup>22</sup> The report then discusses “legacy” reverse sensitivity effects and uses these to justify Policy 6.7, assuming as it does so that “*future incidents of reverse sensitivity will not occur*”.<sup>23</sup>
- 6.13 Again, this is an erroneous position to take and an incorrect assumption. There is no certainty that future incidents of reverse sensitivity will not occur. Equally I do not agree that all existing occurrences of situations where “sensitive” activities are located next to existing discharges should be rectified by way of change to or relocation of the existing discharger. Rather, these matters should be addressed through implementation of the NESAQ, the BPO provisions in the pCARP and resource consent application processes.
- 6.14 Policy 6.7, as written, requires that if a new sensitive activity locates near an existing air discharge activity, then the onus is on the existing activity to either reduce its effects (that didn’t exist before the sensitive activity located there) or relocate itself. In my opinion, this overstates the law (for example, an overall judgement approach may determine that it is appropriate for the activities to co-exist) and misrepresents the reverse sensitivity obligation. This does not provide any security for an industrial activity that has located itself appropriately and with all necessary approvals – it can be upstaged and told to move simply

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<sup>21</sup>

Section 42A Report, Recommendation R-Section 1-10

<sup>22</sup>

Section 42A Report, page 3-29

<sup>23</sup>

*Ibid*

because a new and more sensitive activity decides to come along and locate there.

- 6.15 With respect to the Carter Holt Harvey site in Shands Road, as noted above the site is appropriately zoned for the Carter Holt Harvey activities and the zone provides for a wide range of both light and heavy industry and processing activities.
- 6.16 The Christchurch District Plan provisions allow for a wide range of activities to locate in the Business 5 zone, provided a range of performance criteria are met. The restrictions include, for example, no “noise sensitive” (with respect to airport noise) activities as permitted activities, but generally most activities can be considered as discretionary activities.
- 6.17 The Proposed Christchurch Replacement Plan provides more restrictions to use of industrial areas for purposes other than industry. However, I note that pre-schools (outside the defined airport noise contour) are restricted discretionary activities, while “noise sensitive activities<sup>24</sup> are only classed as non-complying activities inside the airport noise boundary. Such activities are otherwise regarded as discretionary activities.
- 6.18 It is therefore quite conceivable that “sensitive” activities could locate in the vicinity of existing industrial activities such as the existing Carter Holt Harvey site. Implementation of Policy 6.7 as worded would then obligate Carter Holt Harvey (and others) to reduce its effects to take account of the new activity or otherwise move to a different location. In this situation, I would fully expect the industrial activity to move to a new location outside of the Canterbury Region.
- 6.19 I consider that there are two aspects to be considered with respect to reverse sensitivity, as highlighted in the Section 42A Report. These are:
- (a) A retrospective situation, where an existing sensitive activity is located near an existing discharge to air and where steps

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<sup>24</sup> Such as “residential activities ... education activities including pre-schools, [or] guest accommodation (Proposed Christchurch Replacement Plan, Rule 16.2.2.5 NC4).

should be taken to improve the local environment. This is the situation Policy 6.7 is intended to address.<sup>25</sup>

- (b) A future situation where reverse sensitivity issues may arise if a sensitive activity is allowed to locate in the vicinity of an existing discharge.<sup>26</sup> The Section 42A Report considers that this situation will not arise as it will be controlled through land use planning provisions.<sup>27</sup>

- 6.20 The retrospective situation is not appropriately dealt with through a policy approach such as that provided by Policy 6.7, as this policy would equally apply to any new situation arising as well. As discussed above, the response that Policy 6.7 requires is that the discharger must change, even though the new situation is created by actions outside of its own control.
- 6.21 In my opinion, the retrospective or legacy situation described in the Section 42A Report is not a “reverse sensitivity” matter *per se*, it is the reality of the existing environment as it now exists once the sensitive activity has been allowed to locate in that vicinity. In that regard, any issues with respect to the quality of a discharge of contaminants to air should be dealt with through normal resource consent application processes, implementation of the NESAQ, and application of BPO provisions, taking into account the existing environment as it stands at the time of the application process. This approach would provide ample means for improving the quality a discharge to air to take account of any sensitive activity located nearby, while appropriately recognising the potential difficulties that there may be in retrofitting emission control measures to an existing discharge.
- 6.22 As noted earlier, there can be no guarantees that reverse sensitivity effects will not arise in future. I agree that this future scenario should be addressed by way of land use control measures as proposed for the introductory text for the pCARP. In that regard, I do not consider that there is any need for policies in the pCARP dealing with potential future reverse sensitivity effects.

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<sup>25</sup>

Section 42A Report, page 3-29

<sup>26</sup>

For example, Section 42A Report, Recommendation R-Section 1-10

<sup>27</sup>

Section 42A Report, page 3-29

6.23 As discussed above, I consider that Policy 6.7 should be deleted. I do not consider that there is any need to include further BPO provisions relating to reverse sensitivity, as this matter is already fully dealt with by other policy measures as discussed earlier in my evidence.

## **7. AMBIENT AIR QUALITY GUIDELINES**

7.1 The pCARP uses the Ministry for the Environment Ambient Air Quality Guidelines (2002) as a tool for seeking improve air discharges in the region. In particular, the pCARP refers to the Ambient Air Quality Guidelines in:

- (a) Policy 6.2 (minimise adverse effects on air quality so that concentrations do not exceed 100% of the guideline values);
- (b) Policy 6.3 (where concentrations of contaminants exceed 100% of the guideline values, action is taken to improve air quality);
- (c) Policy 6.21 (avoid the discharge of contaminants into air from any large scale burning device or industry or trade premise, where the discharge will result in the exceedance, or exacerbation of an existing exceedance of the guideline values);
- (d) Rule 7.17 (the discharge of contaminants into air from a large scale solid fuel burning device or from an industrial or trade premise established prior to 28 February 2015, outside a Clean Air Zone, that will likely result in guideline values being exceeded is a non-complying activity); and
- (e) Rule 7.18 (the discharge of contaminants into air from a large scale fuel burning device or from an industrial or trade premise established either: inside a Clean Air Zone; or outside a Clean Air Zone after 28 February 2015, that will likely result in guideline values being exceeded is a prohibited activity).

- 7.2 Policies 6.2 and 6.3 essentially provide alert levels as to when actions are required to improve ambient air quality and are in my opinion are generally consistent with the manner in which the guidelines were intended to be used.
- 7.3 The wording of Policy 6.21 in practice requires that the guidelines be regarded as mandatory never-to-be exceeded standards, particularly with respect to the policy requiring that discharges resulting in exceedances of the guidelines are to be avoided. The Section 42A Report confirms that the policy should be read as to mean of “not allow” or “prevent the occurrence of” such discharges.<sup>28</sup>
- 7.4 I consider that this is inconsistent with the way in which the guidelines were developed, the way in which the guidelines are intended to be used and the purpose of the guidelines.
- 7.5 The primary purpose of the ambient air quality guidelines is to promote sustainable management of the air resource in New Zealand. The Guideline values are the minimum requirements that outdoor air quality should meet in order to protect human health and the environment, and are intended to be used to identify trigger points where emission reduction strategies should be implemented to improve air quality or where efforts should be made to maintain air quality and, if possible, reduce emissions.<sup>29</sup>
- 7.6 As stated in the Ambient Air Quality Guidelines report, the guidelines are intended to deal with managing outdoor air quality over an area or region typically referred to as an “air shed”, where there may be a wide range of geographical and/or meteorological constraints, different air discharge sources and varying interactions between discharges, dispersion characteristics and over time. In particular, concentrations within an air shed are influenced by complex interactions between air discharge sources, contaminants discharged into the air, meteorology, and topography.<sup>30</sup>

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<sup>28</sup>

Section 42A Report, page 3-24

<sup>29</sup>

Ambient Air Quality Guidelines, Section 1.1 Introduction

<sup>30</sup>

Ambient Air Quality Guidelines, Section 3.1

- 7.7 The guideline values provide an overall measure of ambient air quality, rather than being specifically linked to individual discharge sources.
- 7.8 The ambient guideline values are not designed to be used to assess the environmental and health impacts of individual discharges to air as required by the RMA, or a regional or district plan, although they are often used as part of the assessment process.<sup>31</sup> Individual discharges include point, area or line sources from activities such as industries, roads and sewage-treatment plants. Section 3.7 of the Guidelines sets out examples as to how the Guidelines should and should not be used in relation to individual discharges. While this section does not specifically refer to policies such as 6.21 being inappropriate, it is clear from the analysis that the guidelines should be used as *part* of a full assessment of environmental effects as required under the RMA, and that they should not be the determining factor as whether a discharge to air should or shouldn't occur.
- 7.9 I also note that even with sophisticated dispersion modelling and other assessment tools, it can be difficult to determine with certainty whether a particular discharge will result in a Guideline value being exceeded in absolute terms.
- 7.10 I therefore generally support the recommendation in the Section 42A Report<sup>32</sup> that Policy 6.21 be amended to provide clear guidance as to what is to be achieved in applying BPO in different receiving environments, rather than the focus being on compliance with the Guidelines as de facto standards. In particular, the policy should not require that discharges be avoided if "*the discharge will result in the exceedance, or exacerbation of an existing exceedance, of the guideline values*".<sup>33</sup>
- 7.11 I have proposed policies with respect to BPO earlier in my evidence. Those policies should replace Policy 6.21.
- 7.12 Rules 7.17 (non-complying activity) and 7.18 (prohibited activity) for the discharge of contaminants into air that "*will likely result in guideline*

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<sup>31</sup> Ambient Air Quality Guidelines, Section 3.7  
<sup>32</sup> Recommendation R - 6.21  
<sup>33</sup> pCARP, Policy 6.21



*values being exceeded*<sup>34</sup> also involve use of the Ambient Air Quality Guidelines in a manner inconsistent with the purpose for which they were developed. Being guidelines, it is intended that any dispersion modelling assessments would be interpreted in a way that takes account of the range of factors other than the specific discharge characteristics selected for the modelling, and to understand the overall influence of such discharges on ambient air quality.

- 7.13 In my opinion, it is entirely inappropriate for the guidelines to be used to define the activity status for consent applications, particularly with respect to non-complying and prohibited activity status where the RMA tests themselves set very high thresholds as to whether a consent application can even be made or considered.
- 7.14 The uncertainty in the rules (where the discharge “will likely result...”) also means that the proposed rules are inappropriate.
- 7.15 I therefore generally support the recommendations in the Section 42A Report<sup>35</sup> that Rules 7.17 and 7.18 be deleted.
- 7.16 Rather than the rules being amended to provide clear guidance as to what is to be achieved in applying BPO in different receiving environments, I consider that discharges to air should be considered as discretionary activities, with appropriate assessment criteria addressing compliance with National Environmental Standards for Air Quality, or effects with respect to the ambient air guidelines.
- 7.17 If a more restrictive activity status is required with respect to some discharges, then this should be based on the National Environmental Standards for Air Quality as these are more certain and mandatory.
- 7.18 I have proposed rules and assessment criteria with respect to BPO earlier in my evidence. Those rules and assessment criteria should replace Rules 7.17 and 7.18.

**Richard Matthews**

**18 September 2015**

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<sup>34</sup> pCARP Policies 7.17 and 7.18  
<sup>35</sup> Recommendations R – 7-17 and 7-18

## **Schedule One: Proposed Wording for Objectives, Policies and Rules**

Several changes to or new Objectives, Policies, Rules and Assessment Criteria are proposed in my evidence. For clarity the wording proposed is set out below.

### **New Objective with respect to existing industry:**

*Recognise and provide for the investment and contribution to economic and social wellbeing of existing industrial, service and rural productive activities that discharge to air.*

### **New Policy with respect to industry location (Section 42A Report Recommendation):**

*Locational constraints of discharging activities, including heavy industry and infrastructure, are recognised so that operational discharges into air are enabled where the best practicable option is applied.*

### **New best practicable option policies:**

*BPO1 Minimise the effects of air discharges by:*

- a) Using best practicable option emissions control at the source of the discharge;*
- b) Adopting a precautionary approach to new discharges to air where there is uncertainty and a risk of serious effects or irreversible harm to the environment from those discharges; and*
- c) Avoiding discharges to air that will cause significant adverse effects.*

*BPO2 Require individual sources of any discharge to air to demonstrate where relevant to the discharge type and reasonably practicable:*

- a) Fuels used are appropriate for use in the Christchurch Air Shed or Clean Air Zones;*
- b) Energy is efficiently used;*
- c) Best practicable option is used;*
- d) Fugitive emissions are appropriately managed;*
- e) Risk and adverse effects on people, property and the environment from hazardous air pollutants are avoided; and*

- f) *The amenity provisions of any zone where the discharge is having an effect are met.*

**Proposed activity status rules:**

- 7.17 *The discharge of contaminants into air from a large scale solid fuel burning device or from an industrial or trade premise established after 28 February 2015 that will likely (based on air dispersion modelling) result in the National Environmental Standard for Air Quality standards being exceeded is a non-complying activity.*
- 7.18 *The discharge of contaminants into air from a large scale fuel burning device or from an industrial or trade premise that was established prior to 28 February 2015 or will likely not (based on air dispersion modelling) result in the National Environmental Standard for Air Quality standards being exceeded is a discretionary activity.*

**Consequential amendment to Rule 7.59:**

- 7.59 *Any discharge of contaminants into air from an industrial or trade premise or process that does not comply with the appropriate permitted activity rule and conditions, and is not prohibited, and is not otherwise provided for by rules 7.3, 7.4, 7.17, 7.18 or 7.28 - 7.58 is a discretionary activity.*

**Proposed best practicable option assessment criteria:**

*The degree to which the activity affects the ability to meet the National Environmental Standard for Air Quality standards.*

*Whether the amount of separation between the activity discharging to air and existing activities sensitive to air discharges is appropriate to mitigate adverse effects on the environment, health and amenity.*

*The value of the existing investment and its contribution to economic and social wellbeing.*

*The extent to which the activity is consistent with and appropriate to the purpose of the underlying zoning of the subject site.*

*The degree to which conditions of consent can avoid, remedy or mitigate adverse effects.*

*The degree to which best practicable options for the control of air discharge emissions can or will be implemented.*

*The extent to which amenity provisions of any zone where the discharge is likely to have an effect are met.*

*Whether the assessment methods, including monitoring and modelling are appropriate to the scale of the discharge and any potential adverse effects.*

*Whether discharges to air are reduced where practicable, through:*

- a) *Use of fuels appropriate for the Christchurch Air Shed or Clean Air Zones;*
- b) *Efficient use of energy;*
- c) *Implementation of best practicable option;*
- d) *Appropriate management of fugitive emissions; and*
- e) *Avoidance of risk and adverse effects on people, property and the environment from hazardous air pollutants.*

**Proposed Canterbury Air Regional Plan (notified version) policies and rules to be deleted:**

***Policy 6.7*** *Where, as a result of authorised land use change, land use activities within the neighbourhood of a discharge into air are significantly adversely affected by that discharge, it is anticipated that within a defined time frame the activity giving rise to the discharge will reduce effects or relocate.*

***Policy 6.14*** *Adopt the precautionary approach when assessing the effects of discharges where the effects are not predictable because of uncertainty or absence of information.*

***Policy 6.21*** *Avoid the discharge of contaminants into air from any large scale burning device or industry or trade premise, where the discharge will result in the exceedance, or exacerbation of an existing exceedance, of the guideline values set out in the Ambient Air Quality Guidelines 2002 Update.*

***Rule 7.17*** *The discharge of contaminants into air from a large scale solid fuel burning device or from an industrial or trade premise established prior to 28 February 2015, outside a Clean Air Zone, that will likely result in guideline values, set out in the Ambient Air Quality Guidelines 2002 Update, being exceeded is a non-complying activity.*

***Rule 7.18*** *The discharge of contaminants into air from a large scale fuel burning device or from an industrial or trade premise established either: inside a Clean Air Zone; or outside a Clean Air Zone after 28 February 2015, that will likely result in guideline values, set out in the Ambient Air Quality Guidelines 2002 Update, being exceeded is a prohibited activity.*